

## Appendix F – Part A, Erosion and Sediment Control Plan Site Inspection

## **HOLTZE PART A HEADWORKS EROSION AND SEDIMENT CONTROL SITE INSPECTION**

**Prepared By:** Paul Brandis (CPESC No. 9681)

**Date of Site Visit:** Tuesday 21<sup>st</sup> January 2025

**Time of Site Visit:** 2:30pm to 4:00pm

**Weather Conditions:** Fair

### **Attendance:**

- Byrne Consultants - Paul Brandis, Patrick Chin
- AKJ Services – Clint Dagger, Gail Caddy

### **Entry/Exit Controls**

- No entry/exit controls installed.
- Rumble grid observed on site, but not in use.
- Temp Facilities Area and current site entry/exit is covered in FCR, with no evidence of sediment being trafficked onto Glyde Point Road.
- Contractor advised new entry/exit is being constructed, and shaker grid will be installed.
  - **Action 1** – Complete construction of new entry/exit and install shaker grid as per IECA standards.



*Existing Site Entry/ Exit*



***Location of new Entry/Exit to be constructed***



***Shaker Grid Not in Use***

## Temporary Facilities / Compound

- Compound is surfaced with Fine Crushed Rock.
- Significant stockpiles of mulch, fill and FCR material in site compound with no sediment controls in place. General fill stockpile considered high risk due to material type and batter slopes.
  - **Action 2** – Install sediment fence/ mulch berm around fill stockpile, if practicable, to keep sediment as close to source as possible. If stockpile is not actively being used, consider erosion controls (e.g. cover with geotextile, or apply polymer).
- No perimeter controls installed (e.g. sediment fence, mulch berms etc). However, due to depth of topsoil strip, FSL is boxed in below the adjoining natural areas and flows are concentrating to the Western edge of the compound where they have been relieved with a number of outlet drains. These outlets have no sediment controls.
  - **Action 3** – Install 500mm high mulch filter berms around Eastern perimeter of compound, extents as required to achieve necessary flow containment. Provide Rock Filter Dams (RFDs) at relief points where outlet drains are located, as per detail in Attachment A. Set spillway 300mm high, with minimum spillway base width of 4m. Ensure RFDs are tied in with adjoining mulch berms to prevent bypass flow.



***Compound with FCR Pavement. General Fill Stockpile without Sediment Controls.***



*Typical Drainage Outlets on Western Perimeter of Compound Area.*

## Glyde Point Road Duplication

- Mulch Berms installed along perimeter from approx. CH 200 to CH 550. Works have not started yet before CH 200. Mulch berm does not extend past CH 550 to the contractors compound. Note quality of berm is variable, in terms of height and thickness.
  - **Action 4** – Install mulch berm along full perimeter of Glyde Point Road works. Ensure minimum 500mm height with consistent cross-section as per IECA Standards. Monitor erosion along toe of mulch berm. Add returns as required to control erosion.
- A gap has been left in the mulch berm for an existing service corridor/ access track.
  - **Action 5** – Provide trafficable bund across service track, to provide flow containment for Glyde Point Road catchment.
- Mulch Berm capacity has been exceeded in 3 No. locations with breaches forming in the berm. This has resulted in sediment laden water leaving site and sediment deposition approximately 10-15m past the berm. The breaches have been reinstated with dump rock.
  - **Action 6** – Replace dump rock with Rock Filter Dams (RFD) in each breach location along Glyde Point Road, as per detail in Attachment A. Set spillway 300mm high, with minimum spillway base width of 6m. Ensure RFD is tied in with adjoining mulch berms to prevent bypass flow. Clean up sediment deposition off-site, so far as reasonably practicable.
- 2x PVC pipe culverts were installed to maintain access over 2 low points. Both pipe outlets were discharging uncontrolled dirty water off site.
  - **Action 7** – Remove PVC pipes allowing uncontrolled discharge from Glyde Point Road catchment.



***End of Mulch Berm approx. CH 550. Mulch Berm needs to be extended for full extent of works.***



***Gap in Mulch Berm for access track. To be closed off with a trafficable berm.***



***Start of Mulch Berm approx. CH 200. Flows are concentrating and dump rock has been installed where previous breach has occurred. Install Rock Filter Dam.***



***Dump Rock at Previous Breach in Mulch Berm. To be replaced with RFD.***



***Dump Rock at Previous Breach in Mulch Berm. To be replaced with RFD.***



***Evidence of Sediment Deposition past breached sections of mulch berm. Sediment to be cleaned up so far as reasonably practicable.***



***Uncontrolled PVC pipe outlet – 2 No. to be removed.***

## Linco Road Duplication

- Pits being formed and cast in situ due to delays in pre-cast pits. No entry controls in place.
- Windrows formed along edges of trench to minimise entry of dirty water into trench.
- Dirty water catchment draining from high point in Linco Road to Glyde Point Road. It's not clear if this is entering Stormwater Pit 3/5 (as per the ultimate design), or putting extra pressure on the Glyde Point Road system.
  - **Action 8** – Install 500mm high trafficable earth diversion bank to direct stormwater into Stormwater Pit 3/5 via a Rock Filter Dam (RFD). Construct RFD as per detail in Attachment A; set spillway 300mm high; with minimum spillway base width of 4m. Ensure RFD is tied in with adjoining berms to prevent bypass flow.
  - **Note** – Additional Diversion Banks may be required progressively along this catchment to slow flows down, if erosion is observed over bare earth areas.
- Stormwater outlets provided to existing SEPs via trench leading to filter aggregate around a slotted PVC riser. This is insufficient to comply with IECA Best Practice Guidelines.
  - **Action 9** – Install 500mm high rock filter dam, as per detail in Attachment A, across width of entry trench at each discharge point into existing SEPs.
- Dewatering hoses observed connected to slotted PVC riser without any additional filtration measures. Contractor was notified of requirement to ensure any water discharge from site meets nominated water quality objective (pH 6.5 to 8.0, Max 75 NTUs).
  - **Note** – Ensure all water discharged from site is treated to meet water quality objectives prior to release.
- No works currently along PRH Access Roads. Some sediment wash off observed onto PRH Access Road 2 from existing power track, which appears historical.
- No perimeter controls at Linco Road eastern Limit of Works (cleared area for roundabout).
  - **Action 10** - Install perimeter controls to eastern limit of works, anywhere that sediment laden water can leave site.



***Pits being formed and cast in situ. No entry controls***



***Windrows formed along trench to prevent dirty water ingress***



***Dirty Water Catchment flows to Stormwater Pit DS3/5 or adds to Glyde Point catchment. Need to install diversion bank to convey water into Pit DS3/5 via Rock Filter Dam.***



***Filter rock and PVC riser to discharge stormwater into existing SEPs. Recommend addition of 500mm high RFD at start of trench (Typical).***



***Dewatering Hose Connected to PVC riser without filtration measures.***



***Sediment wash off onto PRH Access Road 2 from existing power track (appears historical)***



***No perimeter controls on eastern limits of works. Install sediment fence of mulch filter berms to all areas where stormwater may leave site.***

## Erosion Risk Assessment and Ground Cover Requirements

The ESCP currently in use is a 'Dry Season' plan. We are now in the wet season which is considered 'very high' risk for rainfall related erosion.

Erosion Risk Assessments completed in accordance with IECA Best Practice Erosion and Sediment Control (BPESC) Guidelines trigger the need for Type 1 sediment controls (e.g. sediment basins) for any bare earth catchments exceeding 2,500m<sup>2</sup>, unless effective ground cover can be provided.

**Action 11** - To avoid the need for sediment basins, the Contractor must be proactive in providing as much ground cover as practicable. This should be prioritised in areas not actively being worked for more than 5 days during wet season months. Options to achieve ground cover may include the application of a polymer (e.g. Vital Bon-matt Stonewall, or similar), light mulching or gravel.

## NEXT STEPS

It's recommended that the Contractor implement these Corrective Actions as soon as possible. Following this, an audit inspection should be undertaken by a Certified Professional in Erosion and Sediment Control (CPESC) to certify the controls implemented onsite comply with IECA BPESC Guidelines.

## SUMMARY OF CORRECTIVE ACTIONS

### *Entry/Exit Controls*

- **Action 1** – Complete construction of new entry/exit and install shaker grid as per IECA standards.

### *Temporary Facilities / Compound*

- **Action 2** – Install sediment fence/ mulch berm around fill stockpile, if practicable, to keep sediment as close to source as possible. If stockpile is not actively being used, consider erosion controls (e.g. cover with geotextile, or apply polymer).
- **Action 3** – Install 500mm high mulch filter berms around Eastern perimeter of compound, extents as required to achieve necessary flow containment. Provide Rock Filter Dams (RFDs) at relief points where existing outlet drains are located, as per detail in Attachment A. Set spillway 300mm high, with minimum combined spillway base width of 10m. Ensure RFDs are tied in with adjoining mulch berms to prevent bypass flow.

### *Glyde Point Road Duplication*

- **Action 4** – Install mulch berm along full perimeter of Glyde Point Road works. Ensure minimum 500mm height with consistent cross-section as per IECA Standards. Monitor erosion along toe of mulch berm. Add returns as required to control erosion.
- **Action 5** – Provide trafficable bund across service track, to provide flow containment for Glyde Point Road catchment.
- **Action 6** – Replace dump rock with Rock Filter Dams (RFD) in each breach location along Glyde Point Road, as per detail in Attachment A. Set spillway 300mm high, with minimum spillway base width of 6m. Ensure RFD is tied in with adjoining mulch berms to prevent bypass flow. Clean up sediment deposition off-site, so far as reasonably practicable.
- **Action 7** – Remove PVC pipes allowing uncontrolled discharge from Glyde Point Road catchment.

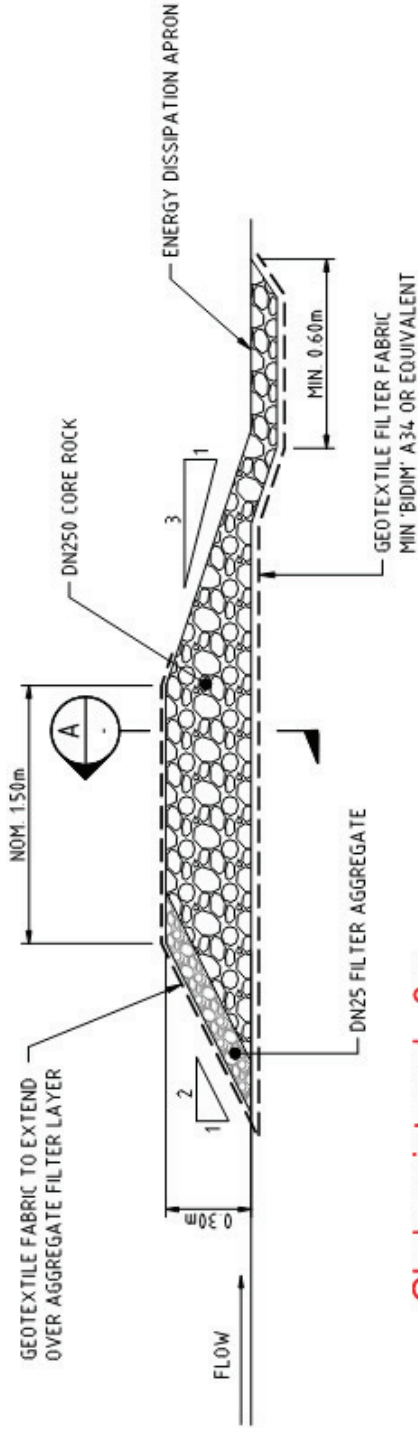
### *Linco Road Duplication*

- **Action 8** – Install 500mm high trafficable earth diversion bank to direct stormwater into Stormwater Pit 3/5 via a Rock Filter Dam (RFD). Construct RFD as per detail in Attachment A; set spillway 300mm high; with minimum spillway base width of 4m. Ensure RFD is tied in with adjoining berms to prevent bypass flow.
- **Action 9** – Install 500mm high rock filter dam, as per detail in Attachment A, across width of entry trench at each discharge point into existing SEPs.
- **Action 10** - Install perimeter controls to eastern limit of works, anywhere that sediment laden water can leave site.

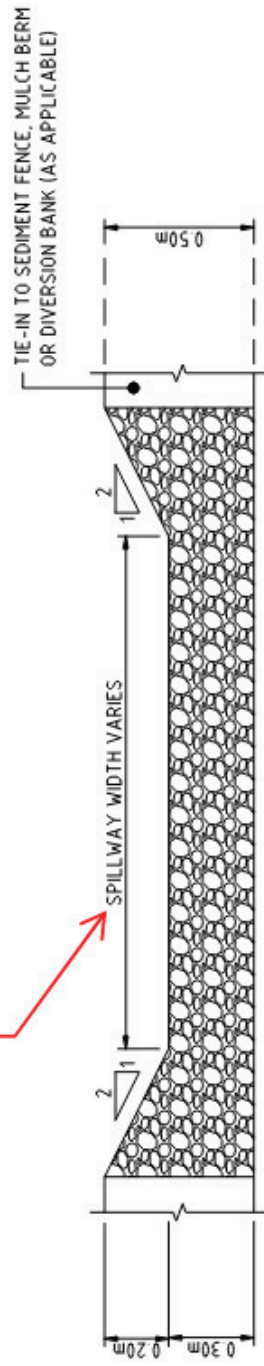
### *General Requirements*

- **Action 11** - To avoid the need for sediment basins, the Contractor must be proactive in providing as much ground cover as practicable. This should be prioritised in areas not actively being worked for more than 5 days during wet season months. Options to achieve ground cover may include the application of a polymer (e.g. Vital Bon-matt Stonewall, or similar), light mulching or gravel.

**ATTACHMENT A – TYPICAL ROCK FILTER DAM DETAILS**



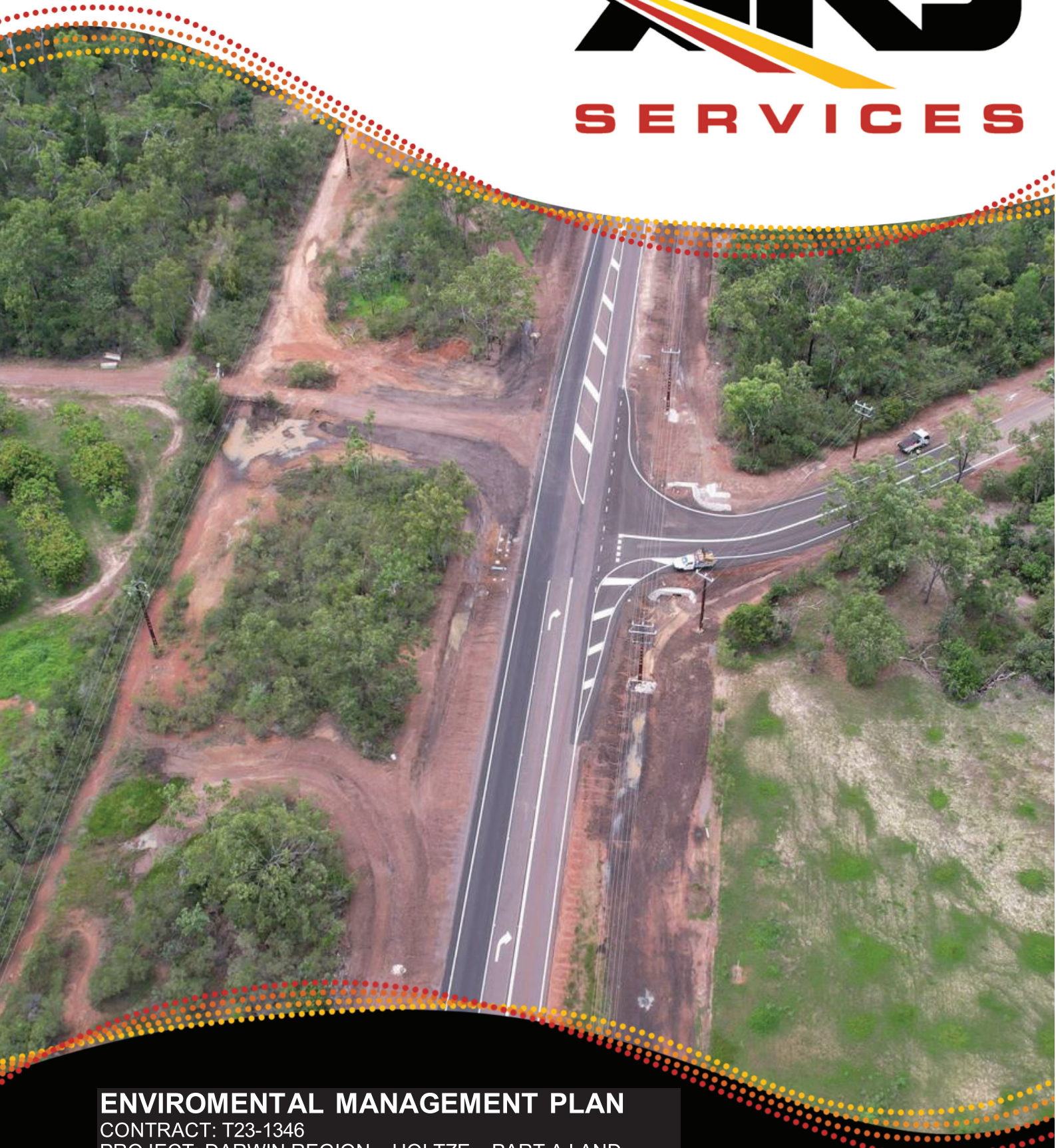
**Glyde point road - 6m**  
**Pit 3/5 - 4m**  
**SEP trench - trench width**



SECTION A  
NTS

TYPICAL ROCK FILTER DAM SPILLWAY

# Appendix G – Part A, Construction Environmental Management Plan




## **ENVIROMENTAL MANAGEMENT PLAN**

**CONTRACT: T23-1346**

**PROJECT: DARWIN REGION – HOLTZE – PART A LAND  
RELEASE INFRASTRUCTURE**

**Date: 8<sup>th</sup> October 2024**

Controlled Document	
Project name	DARWIN REGION – HOLTZE - PART A LAND RELEASE INFRASTRUCTURE
Project number	T23-1346
Site address	Holtze, Northern Territory
Project manager	David Ward                      0460 882 055
Authorised signature	
Site supervisor	Clint Dagger                      0417 618 565
Environmental contact	Jarrad Taylor                      0427 376 914
Issue date	30/10/2024 <b>Next review</b>
Plan version	V4.1
Prepared by	Jarrad Taylor

Amendments Register				
Date	Page/Section	Description of amendment	Prepared by	Approved by
08/10/2024	Full Document	Creation	Gail Caddy	
30/10/2024	Highlighted	Rev 1	Gail Caddy	David Ward
1/11/2024	Highlighted	Rev 2	Gail Caddy	David Ward

Date of issue	Version no.	Issued to	Approved by
08/10/2024	4.1		

**CONTENTS**

<b>1</b>	<b>Environment Policy</b> .....	<b>5</b>
<b>2</b>	<b>Background</b> .....	<b>5</b>
<b>2.1</b>	<b>Project Description</b> .....	<b>5</b>
<b>2.2</b>	<b>Gravel/Mineral Extraction</b> .....	<b>5</b>
<b>2.3</b>	<b>Water Extraction</b> .....	<b>5</b>
<b>2.4</b>	<b>Laydown/Stockpiling</b> .....	<b>6</b>
<b>2.5</b>	<b>Clearing Requirements</b> .....	<b>7</b>
<b>2.6</b>	<b>Location Map/s</b> .....	<b>7</b>
<b>3</b>	<b>EMP Objectives</b> .....	<b>7</b>
<b>4</b>	<b>Organisation Structure and Responsibility</b> .....	<b>8</b>
<b>5</b>	<b>Legislation, Regulations and Standards</b> .....	<b>9</b>
	1.1. Northern Territory Legislation .....	9
	1.2. Northern Territory Regulations.....	10
	1.3. Federal Legislation .....	10
	1.4. Federal Regulations .....	10
	1.5. Australian Standards .....	10
	1.6. Other Standards .....	11
	1.7. ANZECC Publications .....	11
	1.8. Other Publications .....	11
<b>6</b>	<b>Approvals, Licences and Permits</b> .....	<b>13</b>
<b>7</b>	<b>Community Consultation and Complaints Handling</b> .....	<b>13</b>
<b>8</b>	<b>Non-Conformance</b> .....	<b>14</b>
<b>9</b>	<b>Corrective Action Process</b> .....	<b>14</b>
<b>10</b>	<b>Monitoring</b> .....	<b>14</b>
<b>11</b>	<b>Auditing</b> .....	<b>14</b>
<b>12</b>	<b>Environmental Training and Induction</b> .....	<b>15</b>
<b>13</b>	<b>Protection Management</b> .....	<b>15</b>
<b>14</b>	<b>Emergency Management</b> .....	<b>16</b>
<b>14.1</b>	<b>Emergency Response</b> .....	<b>16</b>
	14.1.1 Fire .....	16
	14.1.2 Weather IE. Cyclone.....	16
	14.1.3 Spills/Contamination .....	16
	14.1.4 Reporting requirements .....	16
	14.1.5 Responsible Persons and Emergency Contacts.....	17
<b>15</b>	<b>Risk Assessment</b> .....	<b>18</b>
	1.9. Job Specific Risk .....	18
	1.10. Management of Identified Risk .....	18



1.10.1. Site Control / Clearing / Stockpiling .....	18
1.10.2. Erosion and Sediment Control .....	19
1.10.3. Weed Management .....	20
1.10.4. Water Quality .....	21
1.10.5. Vegetation Management .....	23
1.10.6. Fauna Management.....	25
1.10.7. Flora Management.....	25
1.10.8. Fire Management.....	26
1.10.9. Air Quality .....	26
1.10.10. Noise and Vibration Control .....	28
1.10.11. Contamination Management .....	28
1.10.12. Waste Management.....	31
1.10.13. Rehabilitation .....	32
<b>1.10.14. Pest Animal Management .....</b>	<b>33</b>
<b>16 APPENDICES .....</b>	<b>35</b>
<b>Appendix A – AAPA Certificate.....</b>	<b>36</b>
<b>Appendix B – Landowner Permission.....</b>	<b>37</b>
<b>Appendix C – Department of Health Kitchen Approval.....</b>	<b>37</b>
<b>Appendix D – Department of Health Approval for Septic / Plumber Certification .....</b>	<b>37</b>
<b>Appendix G – DIPL Environmental Risk Assessment.....</b>	<b>38</b>
<b>Appendix H – Erosion and Sediment control plan .....</b>	<b>39</b>
<b>Appendix I – Environmental Checklist .....</b>	<b>40</b>

## **1 ENVIRONMENT POLICY**

AKJ Services Pty Ltd company directors are committed to minimising our environmental footprint, and the prevention of any further environmental damage concerning our company activities in accordance with relevant environmental legislation, and ISO 14001:2015 Environmental Management Systems.

AKJ Services Pty Ltd Directors are committed to achieving this policy through:

- Implementation of methods for the prevention of pollution and reducing waste,
- To comply with all legislative requirements relating to the environment,
- Ensure that our environmental objective and targets are met and reviewed continually for suitability,
- Identify and monitor any environmental aspects/impacts identified through out operations,
- Provide instruction, training and guidance to all employees, subcontractors in our management system.

Ensure that all nonconformances have been investigated and verified.

This policy is communicated throughout our organisation and is available relevant interested parties.

All AKJ Services employees, subcontractors and visitors are required to adhere to this policy.

This policy will be reviewed at a minimum every two years.

## **2 BACKGROUND**

### **2.1 PROJECT DESCRIPTION**

Construction of enabling infrastructure for Holtze land release including upgrades to Glyde Point Road and duplication of Linco Road, including drainage, landscaping and street lighting. Also utilities comprising water, sewer, power and communications services.

### **2.2 GRAVEL/MINERAL EXTRACTION**

Quarry import materials only, nil extraction.

### **2.3 WATER EXTRACTION**

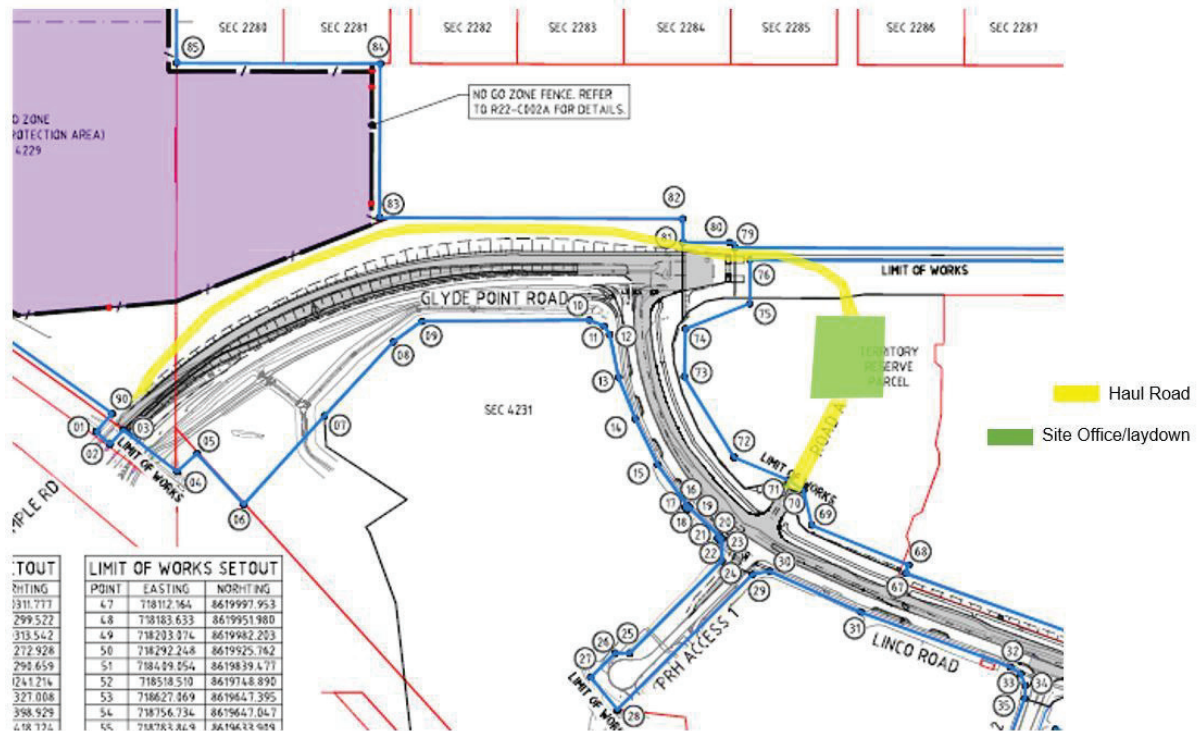
Nil extraction.

## 2.4 LAYDOWN/STOCKPILING

Working hours will be 7.00 am – 6.30pm Monday to Saturday. Works outside these hours will require written approval from the client.

AKJS have proposed to situate the site compound within the project work zone. Site vehicle parking/ laydown area/ Stockpile location will be situated within the compound.

Site locations for additional stockpile locations will need to be agreed on by stakeholders.



The site compound will consist of the below amenities.

- 1.8m Temporary fence with project signboards will be fixed to entrance of compound which will include Project Name and Number, site contact details.
- Location for site vehicle parking. Reverse Parking only. Reverse parking signs in place.
- Muster point
- Fire extinguisher
- Spill Kit
- First Aid
- Machine laydown area
- Correct Traffic signs will be in place as per the designed TGS.
- No clearing within AAPA RWA

Amenity Type	Identified Actions
Compound	Onsite compound will be established
Construction Site Office	Onsite Office/ Crib hut will be established inside compound. Generators to be used until existing power connected

Toilets Facilities	Portaloos will be used for toilets and pumped out periodically
Laydown and Storage areas	Allocated location used as per identified by onsite SUPERINTENDENT in liaison with stakeholders
Security fencing	Temporary Security Fencing installed onsite around site compound. Bollards and flagging to be used around worksite
Drinking Water	Water will be available through existing facilities
Accommodation	Offsite accommodation will be provided and utilised.

## 2.5 CLEARING REQUIREMENTS

As per the IFT drawings, the work zone will be cleared as per the scope of works.

## 2.6 LOCATION MAP/S

The Holtze Headworks site is located just off the Stuart Hwy, in Holtze which is approximately 20km from Darwin CBD. General site deliveries will access the site from the Stuart Hwy onto Glyde Point Rd utilising the nominated access routes depending on the stage of works.



Figure 1 – Works Area

## 3 EMP OBJECTIVES

The objectives of the Environmental Management Plan (EMP) are to ensure that appropriate environmental protection and mitigation measures are implemented to prevent negative impacts on the surrounding environment.

This EMP is considered a live document. Where inefficiencies or risks associated with

project activities are identified during the implementation of project works, project procedures and/or environmental management measures will be reviewed and updated to ensure these matters are sufficiently managed.

This plan has been developed in conjunction with:

- AS/NZS ISO 9001 Quality management system standard,
- AS/NZS 4801 OHS management system standard, and
- AS/NZS ISO 14001 Environmental management system standard.

## **4 ORGANISATION STRUCTURE AND RESPONSIBILITY**

AKJ Services is required to comply with the provisions of the DIPL Environmental Standard Specification and any other environmental protection provisions in the Contract and observe the requirements of any applicable statute by-law, standard etc. related to environmental protection.

The environmental protection requirements in the DIPL Environmental Standard Specification, together with the Conditions of Contract, are complementary to, and not in substitution for any statutory requirements, or for any of the technical requirements of the specifications and drawings.

AKJ Services must comply with environmental statutory requirements and procedures defined within the Environmental Management Plan (EMP) and supplementary plans.

### **Environmental Manager**

Responsibilities include:

- Assist with the development-review of the EMP for the duration of the project in accordance with our HIRAC process,
- Ensure that the site is complying with our Environmental management system, legislative requirements, and obligations,
- Reviewing / Implementation all environmental risk assessments in accordance with our HIRAC process to ensure that they are effective, reviewed and still appropriate for the tasks,
- Conduct monthly reviews of the EMP.

### **Project Manager**

Responsibilities Include:

- Assist with the development-review of the EMP, project management plan (Quality, Health, Safety and Environmental), emergency plan and evacuation map for the duration of the project in accordance with our HIRAC process,
- Ensure that the site is complying with our Quality, Health, Safety and Environmental management system, legislative requirements, and obligations,
- Reviewing / Implementing all risk assessments in accordance with our HIRAC process to ensure that they are effective, reviewed and still appropriate for the tasks,
- Conducting company and site-specific inductions, including internal training,
- Conduct monthly reviews of the PMP, ERP, EMP and other related site documentation,
- Engage and assist in any emergency situations onsite in accordance with site emergency plan,
- Schedule evacuation drills, audits, and inspections for the site,
- Ability to act as a supervisor concerning any onsite emergency,

- Conduct onsite audits and inspections,
- Conduct Incident / Accident investigations when required,
- Ensure that our Objectives / Targets have been met for the project, and adjust where required,
- Approving subcontractors Quality, Health, Safety and Environmental plans and systems e.g. risk assessments/plans for use onsite,
- Monitoring subcontractor's performance, risk assessment checks (SWMS etc.),
- Preparing the works program for this project,
- Liaise with the client, regulatory agencies regarding requirements for approvals, licenses, permits and authorities and or any nonconformances,
- Monitoring subcontractor's performance, risk assessment checks etc,
- Action corrective actions where required,
- Implementation and maintenance of Environmental actions and controls, and
- Ensure that site notice boards are readily available for implementation.

### **Employees and Subcontractors**

Responsibilities include:

- Report any accidents/incidents, near misses, to the immediate supervisor onsite,
- Comply with AKJS system requirements,
- Attend all required inductions, meetings and training requirements deemed appropriate by AKJS.
- Ability to supervise the site in case of an emergency concerning any onsite emergency.

## **5 LEGISLATION, REGULATIONS AND STANDARDS**

Comply with, but do not be limited to, the following as applicable.

### **1.1. NORTHERN TERRITORY LEGISLATION**

- *Aboriginal Land Act 1978*
- *Environmental Protection Authority Act 2019*
- *Bushfires Management Act 2016*
- *Dangerous Goods Act 1998*
- *Environmental Assessment Act 1982*
- *Environmental Offences and Penalties Act 1996*
- *Fire and Emergency Act 1996*
- *Heritage Act 2011*
- *Northern Territory Aboriginal Sacred Sites Act 1989*
- *Soil Conservation and Land Utilisation Act 1969*
- *Territory Parks and Wildlife Conservation Act 1976*
- *Transportation of Dangerous Goods by Road and Rail (National Uniform Legislation) Act 2010*
- *Waste Management and Pollution Control Act 1998*

- *Water Act 1992*
- *Weeds Management Act 2001*
- *Work Health and Safety (National Uniform Legislation) Act 2011*

## **1.2. NORTHERN TERRITORY REGULATIONS**

- Dangerous Goods Regulations
- Environmental Offences and Penalties Regulations
- Fire and Emergency Regulations
- Heritage Regulations
- Territory Parks and Wildlife Conservation By-Laws
- Territory Parks and Wildlife Conservation Regulations
- Transportation of Dangerous Goods by Road and Rail (National Uniform Legislation) Regulations
- Waste Management and Pollution Control (Administration) Regulations
- Water Regulations
- Weeds Management Regulations
- Work Health and Safety (National Uniform Legislation) Regulations

## **1.3. FEDERAL LEGISLATION**

- *Aboriginal and Torres Strait Islander Act 2005*
- *Aboriginal and Torres Strait Islander Heritage Protection Act 1984*
- *Aboriginal Land Rights (Northern Territory) Act 1976*
- *Environment Protection and Biodiversity Conservation Act 1999*
- *Native Title Act 1993*

## **1.4. FEDERAL REGULATIONS**

- Aboriginal and Torres Strait Islander Heritage Protection Regulations
- Aboriginal Land Rights (Northern Territory) (Land Description) Regulations
- Aboriginal Land Rights (Northern Territory) Regulations
- Environment Protection and Biodiversity Conservation Regulations

## **1.5. AUSTRALIAN STANDARDS**

- AS/NZS/ISO 14001 Environmental management systems - Requirements with guidance for use
- AS 2187.2 Explosives – Storage and use – Use of explosives
- AS 1940 – 2004 The storage and handling of flammable and combustible liquids

- AS1692 – 2006 Steel tanks for flammable and combustible liquids
- AS490-2009 Protection of trees on development sites
- AS 2436 Guide to Noise and Vibration Control on Construction, Maintenance and Demolition Sites

## 1.6. OTHER STANDARDS

- ASTM D 2487 - Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)
- ASTM D 7208-6 - Standard Test Method for Determination of Temporary Ditch Check Performance in Protecting Earthen Channels from Stormwater-Induced Erosion
- The Australian Dangerous Goods Code Edition 7.4

## 1.7. ANZECC PUBLICATIONS

- NIL

## 1.8. OTHER PUBLICATIONS

- International Erosion Control Association (IECA) Australasia Best Practice Erosion and Sediment Control
- Queensland Maroon Book for urban storm water management - Manual for Erosion & Sediment Control, Version 1.2, Sunshine Coast Regional Council
- Blue Book – Managing Urban Stormwater Soils and Construction, Volume 1, 4th edition, Volume 2a – Installation of services, Volume 2b Waste Landfills, Volume 2c Unsealed Roads, Volume 2d Main Road Construction and Volume 2e Mines and Quarries
- Queensland Acid Sulfate Soil Technical Manual, Soil Management Guidelines, Version 4, SE Dear, LE O'Brien, AE McElinea, NG Moore, SK Dobos, KM Watling and CR Ahern
- RTA Code of Practice for Water Management
- Environmental Noise Management Manual
- Soil Survey Standard Test Method, Unified Soil Classification System: Field Method
- Australian Rainfall and runoff – Flood analysis and design
- Declared weeds of the Northern Territory
- Weeds of National Significance (WONS)
- DLRM Land Clearing Guidelines NT Planning Scheme 2010
- NT EPA - Noise Guidelines for Development Sites in the Northern Territory
- NT EPA - Keeping our Stormwater clean – a Builder's Guide
- NT EPA – Prevent Pollution from Building Sites
- NT WorkSafe – How to Safely remove asbestos – Code of Practice



**Environmental Management Plan**  
T23-1346 DARWIN REGION – HOLTZE  
PART A LAND RELEASE INFRASTRUCTURE

- Power and Water Corporation – Disinfection of Subdivisions and Water Service Connections from 20mm and Greater

## **6 APPROVALS, LICENCES AND PERMITS**

- AAPA Certificate
- Crown Lease Licence (laydown/site compound)

## **7 COMMUNITY CONSULTATION AND COMPLAINTS HANDLING**

AKJ Services will notify the superintendent, communication consultant to notify residents and the Palmerston Hospital, about new or changed construction activities which will affect access to their properties or otherwise significantly disrupt residents or occupiers use of their premises.

Unless the work is of an urgent nature for safety reasons, notification of relevant stakeholders must be at least 5 working days before commencing the work and must advise of the following:

- The nature of the work
- Why it is necessary
- The expected duration
- Changes to arrangements for traffic or property access
- The name and 24-hour contact telephone number of the Contractor's representative who can respond to stakeholder concerns.

Within 1 working day of receiving a complaint about any environmental issue, including pollution, AKJ Services will supply a written report to the clients Superintendent detailing the complaint and action taken to alleviate the problem. A register of all such complaints will be maintained, together with the following records:

- Date and time of complaint
- The method by which the complaint was made (telephone, letter, meeting, etc.)
- Name, address, contact telephone number of complainant (if no such details were provided, a note to that effect)
- Details of complaint
- Action taken in response including follow up contact with the complainant
- Any monitoring to confirm that the complaint has been satisfactorily resolved
- If no action was taken, the reasons why no action was taken.

## **8 PRESERVATION OF VISUAL VALUES**

Throughout the period of works AKJS will preserve visual values:

Maintain the visual amenity of adjacent land owners at all times during the construction. Keep the site neat and tidy at all times. Design and erect temporary lighting, including compound security lighting, in such a way that it minimises nuisance to residents, but conforms to the safety requirements for the illumination of the site. Ensure that adjoining residents or passing traffic is not affected by glare.

## 9 NON-CONFORMANCE

Regular audits will be undertaken as per monitoring section below. Non-conformances identified in any monitoring activity either by AKJ Services internally or by the client will be recorded, reported in monthly report and rectified. All records will be maintained for non-conformances and the effectiveness of remedial action undertaken, a copy of which can be supplied to the superintendent upon request, in addition to monthly report and at project completion.

A Failure to comply with, or a breach of, any condition will result in the issue of an Instruction to Contractor, or a Corrective Action Request, or a Non-Conformance Report or any combination of these.

## 10 CORRECTIVE ACTION PROCESS

The HSEQ Manager / Project Manager shall determine any nonconformance against the EMP and Project HSEQ Management Plan requirements and initiate the appropriate corrective action.

The Management Team will check that all corrective actions are completed within the register and/or that the Corrective Action Report – Investigations are signed off in a timely manner.

## 11 MONITORING

Monitoring of environmental performance is included within the general induction to the Project, within each daily pre-start discussion and, at minimum, weekly toolbox talks. Weekly Safety and environmental check to be undertaken to assess site for compliance by project team, including visual assessment of site condition/housekeeping. Information on environmental risks and impacts will be provided to all individuals with instructions on reporting performance and improvements on an 'as required' basis. Information will be captured daily and included within any monthly report produced for the Project. Appendix E of this EMP also contains a monitoring checklist that will be used monthly to capture site environmental performance.

Records of environmental monitoring are to be maintained, including the effectiveness of any corrective action taken.

Records of environmental monitoring are to be made available to the Superintendent upon request.

Project Manager David Ward will be responsible for undertaking monitoring.

## 12 AUDITING

AKJ Services will develop and implement a risk-based self-auditing program to verify that all works are in accordance with the DIPL Standard Specification for Environmental Management. This EMP will be updated to incorporate this program and show compliance with the specification prior to construction commencing.

AKJ Services will maintain records of the results of environmental audits including non-conformances and the effectiveness of any remedial action taken.

Records of environmental audits are to be made available to the Superintendent upon request.

Project Manager David Ward will be present during external environmental audits.

## **13 ENVIRONMENTAL TRAINING AND INDUCTION**

All site staff, sub-contractors and visitors will be required to undertake a site-specific induction.

All personnel conducting the work will hold associated tickets and/or licenses relevant to their work duties. All personnel working on the project will be made aware of this EMP and will be provided advice regarding their roles and responsibilities, where these relate to environmental risk management.

Pre-start discussions for the project will include highlighting any site environmental risks identified each day, with a discussion on environmental performance also included in weekly Toolbox talks. All individuals will be encouraged to identify ways in which environmental performance on site may be improved (i.e., where these opportunities present themselves).

## **14 PROTECTION MANAGEMENT**

Should AKJS or sub-contractors come across any artefacts which may or may not be of Aboriginal Origin or heritage, we will stop work immediately and contact the Client's Superintendent to arrange appropriate action in order to minimise or prevent the loss of, or damage to, items of cultural heritage or archaeological significance.

As per the AAPA certificate at **Appendix A**, no RWA have been identified in the immediate works area.

## **15 EMERGENCY MANAGEMENT**

### **15.1 EMERGENCY RESPONSE**

#### **15.1.1 Fire**

The Project is not anticipated to create or have potential to cause bushfire events. Fire management controls will be implemented as part of AKJS's Project Management Plans and procedures.

Fire extinguishers and water carts will be used where an area of potential fire risk is identified. Project emergency procedures will also be included as part of the Projects Management Plans.

#### **15.1.2 Weather IE. Cyclone**

Cyclone and wet weather management controls will be implemented as part of AKJS's Project Management Plans and procedures. Please refer to the AKJS Project Management Plan.

#### **15.1.3 Spills/Contamination**

An Emergency response plan has been developed for the project. Refuelling of equipment on site will be kept to a minimum. Spill kits will also be kept with refuelling equipment with all personnel trained in the use of spill kits. Any waste from fuel or POL spills will be contained, double bagged per spill kit instructions, and taken off site for disposal at a licensed waste facility.

Should an environmental incident occur, AKJS will follow the steps below. The Actions, Responsibility and communication within each step will vary depending on the severity of the incident.

1. Assess the situation and act accordingly
2. Rate the incident severity according to the Risk Management Framework consequence guidance
3. Incident management to reassess severity and act accordingly
4. Complete Incident record
5. Incident investigation, if applicable
6. Incident close out

AKJS emergency contact for this project is the below personnel listed in 14.1.5 who is contactable 24 hours a day 7 days a week. For a full list of emergency contact details, please refer to AKJ Emergency Response Plan provided with the project documentation.

#### **15.1.4 Reporting requirements**

All incidents will be reported immediately to the client contact, with initial contact to be made with Emergency Services as applicable to the incident.

Dependant on incident type will determine which agency is to be contacted in the secondary instance. Guidance will be sought as necessary from the client in conducting appropriate action.



### 14.1.5 RESPONSIBLE PERSONS AND EMERGENCY CONTACTS

Contact	Position	Phone number
NT EPA – Pollution Hotline	Environmental Regulator	1800 064 567
David Ward	Project Manager	0460 882 055
Clint Dagger	Site Supervisor	0417 618 565
Jarrad Taylor	AKJS Environmental Manager	0427 376 914
Anthony Pearse	Project Manager	0438 747 680
Natasha Cercarelli	Superintendent Representative	08 8946 5039

## 16 RISK ASSESSMENT

### 1.9. JOB SPECIFIC RISK

AKJ has completed a desktop assessment of potential environmental risks. The results of this Risk Assessment are contained below of this EMP. As per this information, the following items have been identified as the highest possible environmental risks associated with the Project:

- Weed Management
- Vegetation Management
- Dust and Vibration
- Water Quality
- Erosion and sediment control
- Fauna Management
- Fire Management
- Air Quality
- Noise and vibration
- Waste Management

The Risk Assessment conducted for the Project has been undertaken in accordance with Australian and International Standards (AS/NZS ISO 0991, AS/NZS 4801 and AS/NZS 1400) and is applicable to the assessment of the workplace and environmental risks associated with the Project areas. Below contains information relating to how risks have been assessed, including assessing the likelihood and consequence of each risk. This section also contains information relating to the management of risks, with further information included in Section 3.2 and 3.3, below.

### 1.10. MANAGEMENT OF IDENTIFIED RISK

#### 1.10.1. Site Control / Clearing / Stockpiling

Management Strategy	(Detail site specific Management Strategy)
<b>Control(s)</b>	<ul style="list-style-type: none"> <li>• Hold Point - The Contractor is to notify the Superintendent's Representative prior to undertaking any clearing activities and receive approval from the Superintendent's Representative prior to commencing any clearing.</li> <li>• Hold Point - The Contractor is to notify the Superintendent's Representative prior to completing the initial imagery and prior to all subsequent imagery.</li> <li>• Install all necessary erosion and sediment control measures to effectively manage sediment laden runoff or wind erosion from stockpile areas.</li> <li>• Do not place stockpiled materials inside vegetation protection areas or within 10 metres of retained trees or within the drip line of any trees.</li> </ul>

Management Strategy	(Detail site specific Management Strategy)
	<ul style="list-style-type: none"> <li>Do not place stockpiles within 50 metres of any drains, creeks or other waterways.</li> <li>Locate the stockpiles so that any slump of the stockpile would not affect erosion and sediment control measures or infringe upon specified minimum clearance requirements.</li> <li>Topsoil stockpiles are not to be more than 2 metres in height. All other stockpiles are not to be more than 3 metres in height (unless approved by the Superintendent).</li> <li>Topsoil that is not contaminated by noxious weeds must be stockpiled for later spreading on batters and other disturbed areas. Other material may also be stockpiled but separated from the topsoil stockpiles.</li> <li>Stockpiles in residential areas or adjacent to sensitive receivers are not to exceed 2 metres in height.</li> <li>Maintain the stockpiles to prevent the growth of weeds on the stockpiles.</li> <li>Long term stockpiling in the urban environment is to include protection to reduce the risk of wind (dust) and/or rain (sedimentation).</li> </ul>
<b>Performance Indicator(s)</b>	Performance indicators will be confirmed upon determination of site location of stockpiles and incorporated into this CEMP prior to construction commencing.
<b>Monitoring</b>	Clearing and stockpiling will be monitored daily by plant operators during extractive activities.
<b>Reporting</b>	Stockpiles and clearing/grubbing will be audited weekly by civil supervisor
<b>Corrective Action(s)</b>	Plant operators to report all non-conformances to civil supervisor.

### 1.10.2. Erosion and Sediment Control

Management Strategy	(Detail site specific Management Strategy)
<b>Control(s)</b>	<ul style="list-style-type: none"> <li>An ESCP will be provided prior to wet season and/or commencement of construction works.</li> <li>Temporary erosion and sediment control measures will be kept on site at all time during the wet season.</li> <li>It is the responsibility of Site Supervisor to monitor local weather and determine the requirement to install temporary controls on site.</li> <li>Temporary controls to be utilised on site will be outlined within the provided EMP and listed here prior to commencement of construction works.</li> <li>Erosion and sediment control measures will not be removed until disturbed areas have been stabilised.</li> </ul>

Management Strategy	(Detail site specific Management Strategy)
	<ul style="list-style-type: none"> <li>Disturbed areas will be stabilised progressively with vegetation during construction, where necessary, and stabilisation will be undertaken after works are complete and prior to demobilization from site.</li> <li>Sediment fencing will be installed at downstream section of works.</li> </ul>
<b>Performance Indicator(s)</b>	Performance indicators will be confirmed upon determination of site location of mineral extraction pits and incorporated into this CEMP prior to construction commencing.
<b>Monitoring</b>	ESCP controls will be monitored weekly and after each flow-inducing rainfall event
<b>Reporting</b>	ESCP efficacy audited weekly by civil supervisor
<b>Corrective Action(s)</b>	Plant operators to report all non-conformances to civil supervisor.

### 1.10.3. Weed Management

Management Strategy	(Detail site specific Management Strategy)
<b>Control(s)</b>	<p>The DIPL ERA has identified 6 declared weeds on site. Upon AKJ Services inspection of the site, if WoNS are found to be present for the project, a weed management plan will be developed, and the following undertaken in accordance with DIPL Standard Specification for Environmental Management and ERA.</p> <ul style="list-style-type: none"> <li>AKJ Services will:               <ul style="list-style-type: none"> <li>- Survey for declared weeds and assess risk of spread</li> <li>- Consult with Local Council and Department of Environment and Natural Resources (DENR) Weed Management Branch about management procedures to be implemented by the Contractor</li> <li>- Eliminate the seed source where possible</li> <li>- Establish weed protocols to prevent spread of weeds and their seeds offsite if handling of weed contaminated materials is unavoidable and</li> <li>- Practice on-going weed hygiene. ]</li> <li>- Prioritise declared weed species and locations for control based on previous mapping and any site survey (if available)</li> <li>- Detail chemical type, rates, method of application and process to collect data for priority species</li> <li>- Address seasonal restrictions to access and weed reproductive cycles to prevent weed seeding</li> <li>- Integrate chemical control with slashing and burning requirements</li> </ul> </li> </ul>

Management Strategy	(Detail site specific Management Strategy)
	<ul style="list-style-type: none"> <li>- Incorporate monitoring so control effectiveness and spread prevention can be evaluated</li> <li>- Enforce weed hygiene protocols. Ensure that vehicles and plant are steam cleaned or high pressure water cleaned removing all earth/soil/seeds to prevent the spread of weeds and pest animals entering the works site.]</li> <li>• The main methods to ensure that weeds are not spread are:               <ul style="list-style-type: none"> <li>- Clean machines before moving between sites</li> <li>- Don't use or move materials contaminated with weed seeds</li> <li>- Avoid travelling through weeds that are seeding.</li> </ul> </li> <li>• Collection and disposal of the removed earth and organic material will be conducted in a method that will ensure that it does not infest any river, stream, wetland or property.</li> </ul>
<b>Performance Indicator(s)</b>	Preparation of a CEMP that includes weed and pest management measures. Ensure vehicles and equipment arrive and leave site in a clean and weed free condition. Evidence of cleaning must be recorded.
<b>Monitoring</b>	Weeds present monitored daily by plant operators during daily activities.
<b>Reporting</b>	If weeds identified, reported as part of the environmental checklist performed each month and reported in monthly report.
<b>Corrective Action(s)</b>	Plant operators to report all non-conformances to civil supervisor.

#### 1.10.4. Water Quality

Management Strategy	(Detail site specific Management Strategy)
<b>Control(s)</b>	<ul style="list-style-type: none"> <li>• Comply with all relevant legislative requirements and requirements of local water authorities and all other relevant laws and by-laws in force in the Northern Territory.</li> <li>• Provide controls, including soil erosion and sediment controls, to ensure that all water leaving the site complies with any water quality criteria. (This includes streams/waterways, bores, hydrants and stand pipes).</li> <li>• Water quality of the downstream environment is to remain as close as possible in quality as those upstream environments above the designated works area.</li> <li>• In the urban environment measures are to be implemented to prevent contaminated water leaving the worksite and entering stormwater infrastructure.</li> </ul>

Management Strategy	(Detail site specific Management Strategy)
	<ul style="list-style-type: none"> <li>If Water quality monitoring becomes a requirement it is to follow basic scientific methodology and base line measures are to be undertaken prior to commencement of work. During construction monitoring is to occur at the same location upstream and downstream at approximately 100m away from either side of the boundary of the works area and at the same time weekly to ensure consistency</li> <li>The natural channel geometry and meander form of perennial and non-perennial streams must not be altered, nor riparian vegetation disturbed except where written approval is given by the Superintendent.</li> <li>Temporary hydraulic structures such as open channels, drainage lines, batter chutes, release points into streams, and vehicle crossings, are to be designed to carry flows and remain stable, without causing erosion damage, in at least the 5-year Average Recurrence Interval (ARI) event of critical duration.</li> <li>Flow in channels and drainage lines must be managed to non-erosive velocities, or channels lined with suitable protective material as necessary to prevent scouring.</li> <li>Works in waterways and stormwater drainage lines are to be timed to minimise the potential for exposure to rain or flood events, have minimal disruption with disturbed areas and be rehabilitated within 10 days following completion of works in these areas.</li> <li>Table drains are to be top-dressed with stripped topsoil from the project to promote the re-establishment of grasses along batters. Where specified in the project RFT/RFQ the batters are to be hydro-mulched with native or exotic species as listed in the document.</li> <li>Conduct all dewatering activities in a manner that does not pollute the environment.</li> <li>Water quality is to be adequately and continuously protected through all phases of development/construction of the project. Water discharged from the site is to be of a standard to ensure no detrimental impacts on water quality and the environment occur during the construction phase. An increase in suspended solids within surface waters discharged from a work site is not to exceed a 10% increase from upstream to downstream of the site.</li> <li>Approval from DIPL Superintendent to be obtained prior to dewatering.</li> <li>If dewatering is required, water quality to be determined for compliance prior to any discharge.</li> </ul>
<b>Performance</b>	Performance indicators will be confirmed upon determination of

Management Strategy	(Detail site specific Management Strategy)
<b>Indicator(s)</b>	site location of mineral extraction pits and incorporated into this CEMP prior to construction commencing.
<b>Monitoring</b>	Water quality of existing runoff to be monitored by civil supervisor (if it rains during works)
<b>Reporting</b>	Safety and environmental checklist weekly by civil supervisor
<b>Corrective Action(s)</b>	All non-conformances to civil supervisor.

### 1.10.5. Vegetation Management

Management Strategy	(Detail site specific Management Strategy)
<b>Control(s)</b>	<ul style="list-style-type: none"> <li>• Do not destroy, remove or clear vegetation to an extent greater than is necessary for the execution of works and/or identified in the design drawings.</li> <li>• Identify environmentally sensitive areas within or that maybe impacted on by the project works. EG. Riparian vegetation, swamps or wetlands, escarpments, gorges and Sites of Conservation Significance, etc</li> <li>• Minimise environmental risks by following vegetation management strategies such as:               <ul style="list-style-type: none"> <li>- Excluding access to significant vegetation areas</li> <li>- Excluding sacred sites/trees</li> <li>- Selecting appropriately sized clearing machinery and equipment</li> <li>- Minimising worksite area</li> <li>- Protecting vegetation driplines</li> <li>- Locating ancillary activities (e.g. stockpile sites, camps, parking locations, vehicle hardstands) within existing disturbed areas.</li> </ul> </li> <li>• Where trees are to remain on site within the construction zone, AS4970-2009 Protection of Trees on Development Sites is to be applied.</li> <li>• Should a threatened species be identified onsite, stop works in the immediate area, notify the Superintendent, and install a temporary protective barrier to protect the species.</li> <li>• Prior to clearing any area it is to be demarcated with fencing, flagging tape, spray paint or other method approved by the Superintendent.</li> <li>• Ensure the demolition indicators (tapes, spray paint or other) do not go outside of the clearing limits shown on the drawings OR the clearing limits approved in writing by the Superintendent. Ensure that all site personnel observe the</li> </ul>

Management Strategy	(Detail site specific Management Strategy)
	<p>limits of clearing and are made aware of the importance of any vegetation of significant value.</p> <ul style="list-style-type: none"> <li>• Should works or disturbance be proposed in areas outside the previously approved works boundaries, permission must be obtained in writing from the Superintendent.</li> <li>• If any areas of vegetation within the limits of clearing are to be retained, fence off with temporary fencing.</li> <li>• Clearing will be staged so that land disturbance is confined to minimum areas of manageable size, thereby limiting the extent and duration of exposure. Control measures will be applied progressively as each stage is cleared.</li> <li>• All areas to be cleared or used as turnaround or laydown areas will be identified on clearing plans, approved by the Superintendent, provided to the personnel undertaking the clearing works, and flagged on the ground prior to any clearing activities commencing.</li> <li>• Methods and timing of clearing is to be implemented in a manner that minimises the potential for erosion to occur. All machinery operators will be trained in best practises for clearing to minimise erosion.</li> <li>• Cleared vegetation, excluding weeds, may be stockpiled and reused on site for rehabilitation of disturbed areas such as, extraction areas, vehicle turn around areas, detours etc.</li> <li>• Cleared vegetation can also be mulched on site and re-used on site where appropriate as ground cover or environmental control measures, if suitable.</li> <li>• Storage of cleared vegetation and stripped topsoil is not to impact on areas outside of that required for project works.</li> <li>• Clearing of native vegetation, particularly within extraction areas is to adhere to the buffer requirements to waterways referenced in the NT Land Clearing Guidelines 2019.</li> <li>• Any variation to the buffers distances outlined in the NT Land Clearing Guidelines will require prior written approval from the Superintendent.</li> <li>• Remove excess or unwanted material from the site and dispose in accordance with local authority requirements and guidelines.</li> </ul>
<b>Performance Indicator(s)</b>	
<b>Monitoring</b>	Vegetation management monitored daily by plant operators during clearing works.
<b>Reporting</b>	Vegetation management audited weekly by civil supervisor
<b>Corrective Action(s)</b>	Plant operators to report all non-conformances to civil supervisor.

### 1.10.6. Fauna Management

Management Strategy	(Detail site specific Management Strategy)
<b>Control(s)</b>	<ul style="list-style-type: none"> <li>All native wildlife must be protected.</li> <li>All trees to be removed are to be inspected to establish whether nesting native fauna are present. If present, disturbance will only proceed after approval from the Superintendent.</li> <li>Fauna spotters/handlers are required where projects require the clearing of mature trees that have a high risk of nesting or roosting opportunities for wildlife and/or where greater than 1 hectare of native vegetation is required to be cleared.</li> <li>Should a threatened species be identified onsite, stop works in the immediate area, notify the Superintendent, and install temporary protective barriers to protect the species.</li> <li>Should any species require relocation/handling or an injured species is found on site, a certified wildlife carer is to be contacted immediately (e.g. Wildcare NT).</li> </ul>
<b>Performance Indicator(s)</b>	
<b>Monitoring</b>	Fauna management monitored daily by plant operators during clearing works.
<b>Reporting</b>	Fauna management audited weekly by civil supervisor
<b>Corrective Action(s)</b>	Plant operators to report all non-conformances to civil supervisor.

### 1.10.7. Flora Management

Management Strategy	(Detail site specific Management Strategy)
<b>Control(s)</b>	Typhonium is a perennial herb that is endemic to the Northern Territory of Australia. There is a typhonium management area located to the north of Glyde Point Road to be fenced as part of this project. The Contractor is to identify this area and ensure works do not encroach.
<b>Performance Indicator(s)</b>	AKJS will Ensure the Typhonium Protection Area (SEC 4229) is delineated as a no-go area during works to ensure there is no accidental entry or damage in this area
<b>Monitoring</b>	
<b>Reporting</b>	Any access to the fenced protection area will be reported to the superintendent.
<b>Corrective Action(s)</b>	Plant operators to report all non-conformances to civil supervisor.

### 1.10.8. Fire Management

Management Strategy	(Detail site specific Management Strategy)
<b>Control(s)</b>	<ul style="list-style-type: none"> <li>The lighting of fires for clearing of vegetation or disposal of rubbish is not permitted under any circumstances.</li> <li>Where fires are accidentally started, extinguish the fires immediately if appropriate and safe to do so. Camp fires are not permitted on site without written consent from the Superintendent. Where campfires are permitted, control of campfires is strictly the Contractor’s responsibility. Fires are not permitted during fire bans.</li> <li>The provision of containers or sand buckets are required around workers compounds/camp sites and where practical in the worksite for the disposal of cigarette butts.</li> <li>No hot works are to be undertaken on days of total fire ban or when high winds may result in sparks spreading to adjacent vegetation.</li> <li>Fire extinguishers are to be located near chemical/dangerous goods stores, flammable materials and appropriately around the site/workers camp.</li> <li>Fire extinguishers and fire hose reels are to be tested and tagged to show they are in good working condition.</li> <li>Emergency response plans are to be developed in case of fire.</li> <li>Mulch stockpiles are to be monitored on a daily basis to ensure that they have not spontaneously combusted. In the event that a mulch stockpile catches alight, it will be extinguished immediately.</li> </ul>
<b>Performance Indicator(s)</b>	
<b>Monitoring</b>	Fire management monitored daily by all employees and subcontractors during works.
<b>Reporting</b>	Fire management audited weekly by civil supervisor
<b>Corrective Action(s)</b>	Plant operators to report all non-conformances to civil supervisor.

### 1.10.9. Air Quality

Management Strategy	(Detail site specific Management Strategy)
<b>Control(s)</b>	<ul style="list-style-type: none"> <li>Construction facilities are to be designed and operated to minimise the emission of smoke, dust, pesticides and other substances into the atmosphere.</li> <li>Comply with the requirements of the WMPC Act and any conditions of licences, notifications, approvals or permits in relation to maximum air pollutant levels.</li> </ul>

Management Strategy	(Detail site specific Management Strategy)
	<ul style="list-style-type: none"> <li>• Employ construction methods that will keep the air pollution to a minimum. Apply appropriate measures to ensure that airborne pollutants from all activities do not cause undue disruption or inconvenience in the vicinity of the Site.</li> <li>• The following measures, where applicable, are to be conducted to minimise this risk to the environment: <ul style="list-style-type: none"> <li>- Spraying of earthwork formations and roads with water or other suitable liquids approved by the Superintendent</li> <li>- Removal of mud from the wheels and bodies of haulage equipment before it enters public roads or other sealed pavements</li> <li>- Quick removal of mud spilt or deposited by the transport of materials on to public roads or other sealed pavements</li> <li>- Limit vehicle speeds on unsealed roads/surfaces to control the generation of dust by vehicles</li> <li>- Establishment of suitable cover crop or provision of other covering over topsoil stockpiles</li> <li>- Erection of dust screens around and/or spraying of stockpiles with suitable stabilising agents</li> <li>- Stopping dust generating activities which cannot be adequately controlled by water or other means</li> <li>- Transportation of materials which are suitably covered and loaded in a manner that will prevent dropping of materials</li> <li>- Maintaining dust control equipment so that this equipment is available when required, including periods of dust generating activities or high wind speed</li> <li>- Maintaining exhaust systems of construction plant, vehicles and machinery in accordance with manufacturer’s specifications and undertaking periodic visual checks of exhaust systems’ emissions</li> <li>- Treating topsoil stripped areas with no scheduled activities within two weeks to prevent dust generation.</li> </ul> </li> </ul>
<b>Performance Indicator(s)</b>	No complaints received from AAPA/Land Council
<b>Monitoring</b>	Air quality monitored daily by all employees and subcontractors during works.
<b>Reporting</b>	Monitored daily by plant operators and all employees and subcontractors at AKJ Services
<b>Corrective Action(s)</b>	Plant operators to cease work immediately upon determining any changes to air quality throughout works and report to site

Management Strategy	(Detail site specific Management Strategy)
	supervisor

### 1.10.10. Noise and Vibration Control

Management Strategy	(Detail site specific Management Strategy)
<b>Control(s)</b>	<ul style="list-style-type: none"> <li>• Take all practical precautions to minimise noise resulting from the work activities.</li> <li>• Do not use loud hailers in built up areas.</li> <li>• Where applicable the following measures will be applied to minimise the impact of noise:               <ul style="list-style-type: none"> <li>- Substitution by an alternative process</li> <li>- Restricting times when noisy work is carried out</li> <li>- Placement of work compounds, parking areas, equipment and material stockpile sites away from noise-sensitive locations</li> <li>- Where noise barriers/walls are to be constructed, programming this as early as possible to reduce noise impacts from other construction work on neighbouring residents</li> <li>- Screening or enclosures</li> <li>- Consultation with affected residents.</li> </ul> </li> <li>• Take due care in all construction activities to prevent damage to adjacent public utilities, structures and buildings resulting from construction vibration and air blast. To protect the amenity of the occupiers of buildings, the blasting activities shall be carried out to meet appropriate standards and guidelines.</li> <li>• Consult with affected residents before commencing any activities likely to cause ground vibration or air blasting.</li> </ul>
<b>Performance Indicator(s)</b>	No complaints received
<b>Monitoring</b>	Noise and vibration control monitored daily by all employees and subcontractors during works.
<b>Reporting</b>	Monitored daily by plant operators and all employees and subcontractors at AKJ Services
<b>Corrective Action(s)</b>	Plant operators to cease work immediately upon determining any changes to noise/vibration throughout works and report to site supervisor

### 1.10.11. Contamination Management

Management Strategy	(Detail site specific Management Strategy)
<b>Control(s)</b>	<ul style="list-style-type: none"> <li>• Comply with “contract directions for secure storage of volatile substances in communities” provided in T22-1556 - Attachment A - VSA Storage in Communities</li> <li>• Comply with the WMPC Act in relation to disturbance or treatment of potentially contaminated land.</li> <li>• Immediately implement any control measures needed to divert surface runoff away from contaminated land and to capture and manage any surface runoff contaminated by exposure to contaminated land.</li> <li>• Transportation of chemicals and dangerous goods is to be undertaken in accordance with relevant NT and National legislation, codes and standards.</li> <li>• Plan and execute all works to minimise the possibility of pollution of the site and adjoining areas from chemicals, dangerous goods and other potential contaminants.</li> <li>• Use, store and handle chemicals and dangerous goods in accordance with all relevant legislation, manufacturer's instructions and the relevant Safety Data Sheets (SDS). Employ transporting, handling, storage and application methods that will prevent chemical, fuel and lubricant spillage on the site and adjoining areas.</li> <li>• Contain and maintain on site an up to date SDS Register and copy of all SDSs for those materials stored on site.</li> <li>• Do not pollute or permit pollution of land or waterways by a chemical, fuel or lubricant, or any waste material or imported fill.</li> <li>• Storage of chemicals and fuels is to meet requirements under AS1940-2004 - The Storage and Handling of Flammable and Combustible Liquids. As a minimum the capacity of the bunded area (spillage containment compound) shall be at least 100% of the volume of the largest package plus 25% of the storage capacity up to 10,000 Litres (L), together with 10% of the storage capacity between 10,000 L and 100,000 L, and 5% above 100,000 L.</li> <li>• The bunded storage area shall be sufficiently impervious to retain spillage and to enable recovery of any such spillage.</li> <li>• Do not locate storage areas within 50 m of natural or built drainage lines, flood prone areas, or on slopes steeper than 1:10.</li> <li>• Do not leave refuelling operations unattended.</li> <li>• Do not refuel or maintain plant and equipment, mix cutting oil with bitumen, or carry out any other activity which may result in the spillage of a chemical, fuel or lubricant on any location with direct drainage to a waterway or environmentally sensitive areas without appropriate temporary bunding.</li> </ul>

Management Strategy	(Detail site specific Management Strategy)
	<ul style="list-style-type: none"> <li>• Vehicles and machinery are to be maintained to manufactures specifications to reduce the risk of fuel, oil or hydraulic fluid spills into the surrounding environment.</li> <li>• Where possible, workshops are to have impermeable floors to prevent hydrocarbon spills into the soils. If not, contaminated soils from the workshop area are to be disposed of in accordance with the WMPC Act.</li> <li>• Before discharging any water from bunded areas, verify that the water complies with any applicable legislation or water quality criteria nominated by the NT EPA and/or DENR. Arrange appropriate treatment if the water quality is not suitable for discharge.</li> <li>• Spill clean-up equipment and materials, appropriate for the type and quantities of chemicals used on site, must be kept on site at all times during the works and in a readily accessible location.</li> <li>• The equipment and materials for spill clean-up and containment must be maintained and replenished as needed.</li> <li>• All site personnel must be trained in the use of spill clean-up equipment, and containment of materials, including appropriate storage of chemicals if materials must be on site whilst any works are conducted. All site personnel must be aware of the location of spill kits on sites.</li> <li>• Clean up all chemical spills immediately. This may require the excavation of contaminated soil and appropriate remediation or disposal at waste disposal facility. If spills result in an environmental incident, ensure that the incident is reported in accordance with reporting procedures and legislative requirements.</li> <li>• Do not dispose of liquid paint materials or other hazardous materials by flushing down any sewer, stormwater system or natural waterway.</li> <li>• Keep records of all water quality checks, discharges and any remedial actions.</li> <li>• Report all chemical spills to the Superintendent. Where appropriate, also report spills to the NT Pollution Hotline, phone 1800 064 567.</li> <li>• If Asbestos is discovered throughout project works, works will cease and an Asbestos Management Plan (AMP) will be developed accordingly.</li> </ul>
<b>Performance Indicator(s)</b>	No complaints received from AAPA/Land Council No Asbestos/ASS discharge/contamination
<b>Monitoring</b>	Soil Contamination will be monitored daily by all employees and subcontractors during works.

Management Strategy	(Detail site specific Management Strategy)
<b>Reporting</b>	Monitored daily by plant operators and all employees and sub-contractors at AKJ Services
<b>Corrective Action(s)</b>	<p>Plant operators to cease work immediately upon determining or suspecting Asbestos or any other contaminant presence.</p> <p>All contamination discoveries will be reported through to DIPL/EPA as appropriate</p> <p>All registers updates as relevant to contaminant identified.</p>

### 1.10.12. Waste Management

Management Strategy	(Detail site specific Management Strategy)
<b>Control(s)</b>	<ul style="list-style-type: none"> <li>• Comply with the requirements of the WMPC Act.</li> <li>• Remove from the site and dispose of all waste materials, including green waste, food scraps and other putrescible wastes, construction waste, chemicals and effluent in an appropriate manner, in approved legal waste disposal sites or facilities.</li> <li>• Recycle waste materials where appropriate.</li> <li>• Maintain a Waste Management Register for the duration of the Contract, to record the types, amounts and locations of waste reused, recycled, stockpiled and / or disposed of. The Waste Management Register must include the following details: <ul style="list-style-type: none"> <li>- Type of waste and its classification (according to the WMPC Act and DENR Waste Classification Guidelines) (Schedule 2 of the Waste Management and Pollution Control Regulations)</li> <li>- Tonnes of waste</li> <li>- How and where the waste was reused, recycled, stockpiled or disposed</li> <li>- Date when the waste was reused, recycled, stockpiled or disposed</li> <li>- Name of the transporter used (Person or Business name)</li> <li>- Be able to produce receipt of commercial disposal if requested.</li> </ul> </li> <li>• Implement measures to reduce, re-use and recycle construction waste products/materials including soil, road pavement materials, concrete, oils and vegetation.</li> <li>• Implement measures to recycle waste such as cardboard, plastic and glass bottles and aluminium cans.</li> </ul>

Management Strategy	(Detail site specific Management Strategy)
	<ul style="list-style-type: none"> <li>• Ensure that all effluent from amenities is discharged into an approved facility or, if permitted by the controlling authority, the local sewerage system. Effluent disposal direct to ground or water is NOT permitted.</li> <li>• Septic tanks and portable self-contained toilets of suitable capacity may be used subject to suitable arrangements for the disposal of effluent.</li> <li>• All septic tank installations or alternative septic systems servicing buildings both within and outside of building areas, apart from installations subject to the <i>Building Act</i>, must be approved by the Chief Health Officer (CHO) or the CHO's delegate for the area in which the works are to be carried out.</li> </ul>
<b>Performance Indicator(s)</b>	No complaints received from AAPA/Land Council All waste removed appropriately
<b>Monitoring</b>	Waste will monitored daily by all employees and subcontractors during works.
<b>Reporting</b>	Waste Management Register will be updated with receipts kept of all disposals as appropriate.
<b>Corrective Action(s)</b>	Remove waste to appropriate facility

### 1.10.13. Rehabilitation

Management Strategy	(Detail site specific Management Strategy)
<b>Control(s)</b>	<ul style="list-style-type: none"> <li>• Progressively rehabilitate extraction areas to reduce the area of exposed soil during construction works.</li> <li>• Following excavation of the required material, any unused rock and gravel material will be spread back over the extraction area. The extraction area “floor” is to be ripped using dozer or grader tynes to a depth of 100mm to 200mm to loosen the floor to encourage new plants to establish. Ripping is to be carried out along contour lines to reduce or prohibit the extent of erosion.</li> <li>• The previously stripped and stockpiled material including topsoil and overburden will be pushed back over the excavation, detour or access track. The stockpiled topsoil is spread over the disturbed areas to encourage regrowth from the soils seed store. The surface of the topsoil will be scarified which will further enhance the ability of the material to trap mobile seeds, dust and moisture.</li> <li>• No native seed has been identified as being required to be broadcast for this project works</li> </ul>

Management Strategy	(Detail site specific Management Strategy)
	<ul style="list-style-type: none"> <li>Cleared vegetation from the project area, detours access tracks and extraction area will be spread prior to demobilisation to assist the re-colonisation of flora and fauna across the site.</li> </ul>
<b>Performance Indicator(s)</b>	No complaints received from AAPA/Land Council Successful completion and closeout of project works
<b>Monitoring</b>	All rehabilitated areas will be monitored throughout the project works
<b>Reporting</b>	Project Manager to report on efficacy of rehabilitation throughout project as required.
<b>Corrective Action(s)</b>	Final walk through and intermediate environmental inspections and reports that identify any unsuccessful rehabilitation or actions to undertake to assist with rehabilitation will be actioned accordingly.

**1.10.14. Pest Animal Management**

Management Strategy	(Detail site specific Management Strategy)
<b>Control(s)</b>	<ul style="list-style-type: none"> <li>Ensure that all necessary measures are undertaken to prevent and minimise the risk of the introduction and spread of pest animals. No domestic pets, including dogs, are to be brought to the construction site by construction personnel without written approval from the Superintendent. If approved, pets must be under control and safely secured at all times.</li> <li>Provide evidence that pets will be under control and safely secured at all times.</li> <li>All necessary measures are to be implemented to prevent the establishment of suitable environments for mosquito breeding habitat. Where works are undertaken in areas known for biting insects, personal protective measures are to be made available to workers and visitors.</li> <li>All waste bins will have lids to prevent the attraction of pests and vermin. Where skips are used for food waste, covers are to be utilised to reduce the risk of attracting pests.</li> </ul>
<b>Performance Indicator(s)</b>	
<b>Monitoring</b>	Pest animal management monitored daily by all employees and subcontractors during works.
<b>Reporting</b>	Pest management audited weekly by civil supervisor



<b>Management Strategy</b>	<b>(Detail site specific Management Strategy)</b>
<b>Corrective Action(s)</b>	Plant operators to report all non-conformances to civil supervisor.



## **17 APPENDICES**



## **APPENDIX A – AAPA CERTIFICATE**



## **APPENDIX B – LANDOWNER PERMISSION**

*Not Applicable.*

## **APPENDIX C – DEPARTMENT OF HEALTH KITCHEN APPROVAL**

*Not Applicable.*

## **APPENDIX D – DEPARTMENT OF HEALTH APPROVAL FOR SEPTIC / PLUMBER CERTIFICATION**

*Not Applicable.*



## **APPENDIX G – DIPL ENVIRONMENTAL RISK ASSESSMENT**



## **APPENDIX H – EROSION AND SEDIMENT CONTROL PLAN**

## APPENDIX I – ENVIRONMENTAL CHECKLIST

Date Environmental Checklist Undertaken:

Person performing checklist (Name/role):

Please provide electronic copy to Environmental Manager for recording.

Environmental Aspect	Activity	Yes	No	N/A	Comment
General	Complaints from client?				
	Complaints from base users?				
	Environmental incidents?				
	AE444 form filled out for environmental incident?				
Waste Management	Waste appropriately stored in secure bins?				
	Wastes appropriately removed when full?				
	Incidents of pest animals?				
	Waste register up to date?				Status to be checked with Project Engineer
Contamination	Contamination (pre-existing) Identified? (e.g.: Asbestos, PFAS, hydrocarbons)				
	Contamination reported and Defence contamination register updated?				
Hazardous Chemicals	All HAZCHEM stored appropriately?				
	Spill incidents reported?				
	All spill incidents resolved?				
	Spill incidents immediately contained?				
Power and Water Consumption	Power turned off at end of each shift?				
	Incidents of overwatering?				

Environmental Aspect	Activity	Yes	No	N/A	Comment
	Reported leaks?				
Soil Management / Erosion	Stockpiles adequately managed?				
	Erosion controls in place?				
	Erosion controls effective?				
	Evidence of excessive erosion?				
	Bushfire Incidents?				
	Fire hazards?				
Weed Management	Weeds identified?				
	Off road driving incidents?				
	Hay Bales not to be used unless certified they are weed free				
	Vehicles and plant brought to site have been inspected for weeds and are free of weeds				
	organic matter not to be transported to site unless evidence provided it is free of weeds				
	Plant taken off site was cleaned				
	Quantity of weed/seed certificates during month?				
	Weed / seed certificates copy provided to Environmental Manager?				
Heritage Management	Heritage items reported / identified?				
Corrective Actions	Number of corrective actions recorded?				

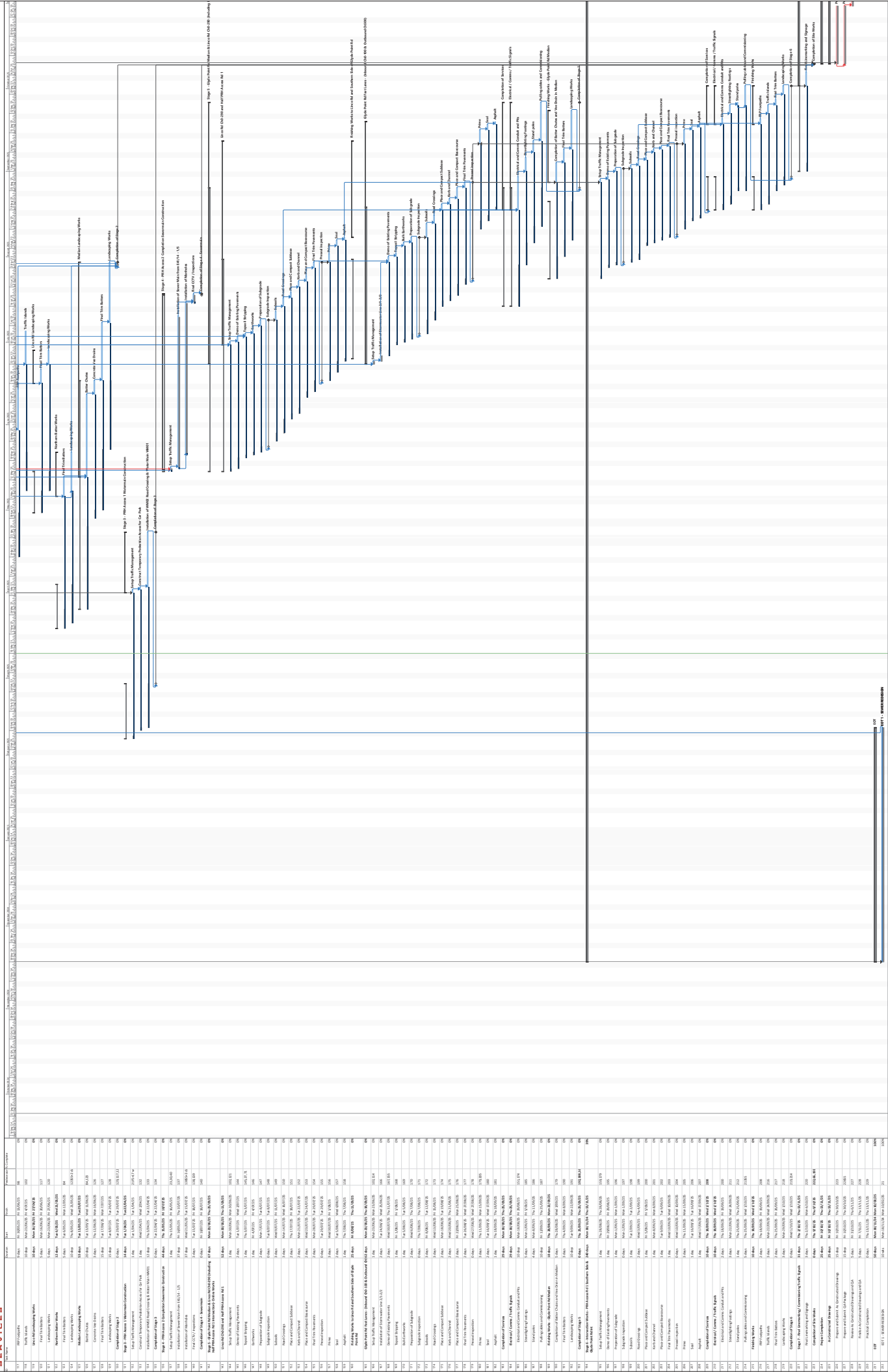


**Environmental Management Plan**  
T23-1346 DARWIN REGION – HOLTZE  
PART A LAND RELEASE INFRASTRUCTURE

Environmental Aspect	Activity	Yes	No	N/A	Comment
Flora	Flora managed in accordance with EMP?				
Fauna	Endangered / Vulnerable species identified within project area (refer fauna spotters guide)				

## Appendix H – Part A, Program Schedule





Task ID	Task Name	Start Date	End Date	Duration (Days)	Task Type
101	Site Preparation	2023-01-01	2023-03-31	90	Construction
102	Excavation and Foundation	2023-01-01	2023-06-30	180	Construction
103	Structural Framework	2023-03-01	2023-09-30	210	Construction
104	Roofing and Cladding	2023-06-01	2023-12-31	210	Construction
105	Interior Fit-out	2023-09-01	2024-03-31	180	Construction
106	Final Inspection and Handover	2024-03-01	2024-03-31	30	Construction
107	Site Remediation	2024-03-01	2024-06-30	90	Construction
108	Final Site Cleanup	2024-06-01	2024-06-30	30	Construction
109	Documentation and Reporting	2024-06-01	2024-09-30	90	Construction
110	Project Closeout	2024-09-01	2024-09-30	30	Construction

Slow Lane to be shortened for Proposed Pavement Works

# TRAFFIC SETUP FOR STAGES 1 & 2



**PROJECT NAME**  
Holtze – Part A Land Release Infrastructure  
**LOCATION**  
Glyde Point Rd / Linco Rd, Greater Holtze, NT  
**CLIENT**  
Department of Infrastructure, Planning and Logistics

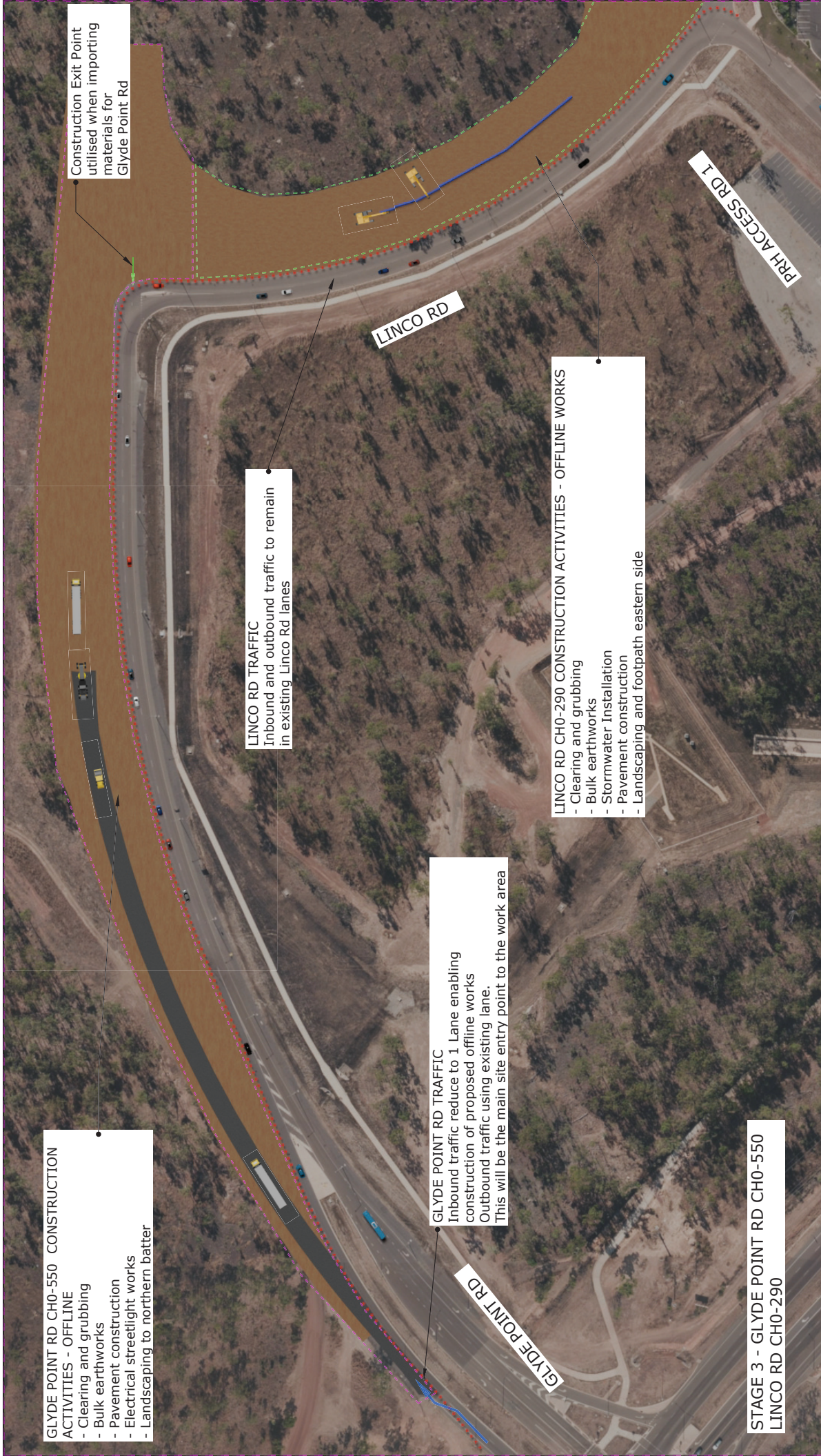


- GENERAL LEGEND**
- Bus Turnaround
  - Staff Car Park Access
  - Public Car Park Access / Emergency Vehicles
  - Maintenance Access
  - Pedestrians
  - Bollards
  - Proposed Entry Points
  - Proposed Exit Points

**DRAWING TITLE**  
Primary Traffic for Stages 1 & 2

**TENDER ISSUE**

1 of 9



**GLYDE POINT RD CH0-550 CONSTRUCTION ACTIVITIES - OFFLINE**

- Clearing and grubbing
- Bulk earthworks
- Pavement construction
- Electrical streetlight works
- Landscaping to northern batter

**GLYDE POINT RD TRAFFIC**  
 Inbound traffic reduce to 1 Lane enabling construction of proposed offline works  
 Outbound traffic using existing lane.  
 This will be the main site entry point to the work area

**LINCO RD TRAFFIC**  
 Inbound and outbound traffic to remain in existing Linco Rd lanes

**LINCO RD CH0-290 CONSTRUCTION ACTIVITIES - OFFLINE WORKS**

- Clearing and grubbing
- Bulk earthworks
- Stormwater Installation
- Pavement construction
- Landscaping and footpath eastern side

**Construction Exit Point**  
 utilised when importing materials for Glyde Point Rd

**STAGE 3 - GLYDE POINT RD CH0-550 LINCO RD CH0-290**



**PROJECT NAME**  
 Holtze – Part A Land Release Infrastructure

**LOCATION**  
 Glyde Point Rd / Linco Rd, Greater Holtze, NT

**CLIENT**  
 Department of Infrastructure, Planning and Logistics

- GENERAL LEGEND**
- Bus Turnaround
  - Staff Car Park Access
  - Public Car Park Access / Emergency Vehicles
  - Maintenance Access
  - Pedestrians
  - Bollards
  - Proposed Entry Points
  - Proposed Exit Points

**DRAWING TITLE**  
 Stages 1/2 - Detailed Traffic - Offline Works

**TENDER ISSUE**



**LINCO RD CH0-290 CONSTRUCTION ACTIVITIES - OFFLINE WORKS**

- Clearing and grubbing
- Bulk Earthworks
- Stormwater Installation
- Pavement Construction
- Electrical streetlight works
- Landscaping to eastern batter / median

**LINCO RD CH290 - END CONSTRUCTION ACTIVITIES - OFFLINE WORKS**

- Clearing and grubbing
- Bulk Earthworks
- Sewer Installation starting with 1/5-2/4, 2/4-2/1 & 2/11
- Stormwater Installation
- Pavement Construction

Construction Exit Point utilised when importing materials for Linco Rd

**LINCO RD TRAFFIC**  
Linco Rd fully closed from PRH Access Rd 1

Staff Car Park 2 access via the Service Rd behind hospital

Bus stop relocated from Linco Rd to PRH Access Rd 1 bus turnaround at the end of the Rd



**PROJECT NAME**  
Holtze - Part A Land Release Infrastructure

**LOCATION**  
Glyde Point Rd / Linco Rd, Greater Holtze, NT

**CLIENT**  
Department of Infrastructure, Planning and Logistics

- GENERAL LEGEND**
- Bus Turnaround
  - Staff Car Park Access
  - Public Car Park Access / Emergency Vehicles
  - Maintenance Access
  - Pedestrians
  - Bollards
  - Proposed Entry Points
  - Proposed Exit Points

**DRAWING TITLE**  
Stages 1/2 - Detailed Traffic - Offline Works

**TENDER ISSUE**



**PROJECT NAME**

Holtze - Part A Land Release Infrastructure

**LOCATION**

Glyde Point Rd / Linco Rd, Greater Holtze, NT

**CLIENT**

Department of Infrastructure, Planning and Logistics

**GENERAL LEGEND**

- Bus Turnaround
- Staff Car Park Access
- Public Car Park Access / Emergency Vehicles
- Maintenance Access
- Pedestrians
- Proposed Entry Points
- Bollards
- Proposed Exit Points

**DRAWING TITLE**

Stage 3 - Watermain Installation  
PRH Access Rd 1

TENDER ISSUE





**LINCO RD TRAFFIC**  
Linco Rd fully closed from PRH Access Rd1

**PRH ACCESS RD 2 TRAFFIC**  
Close off Cul De Sac on PRH Access Rd2 to complete the sewermain installation

**STAGE 4 CONSTRUCTION ACTIVITIES**  
- Completion of sewer installation between E41/14 to 1/5

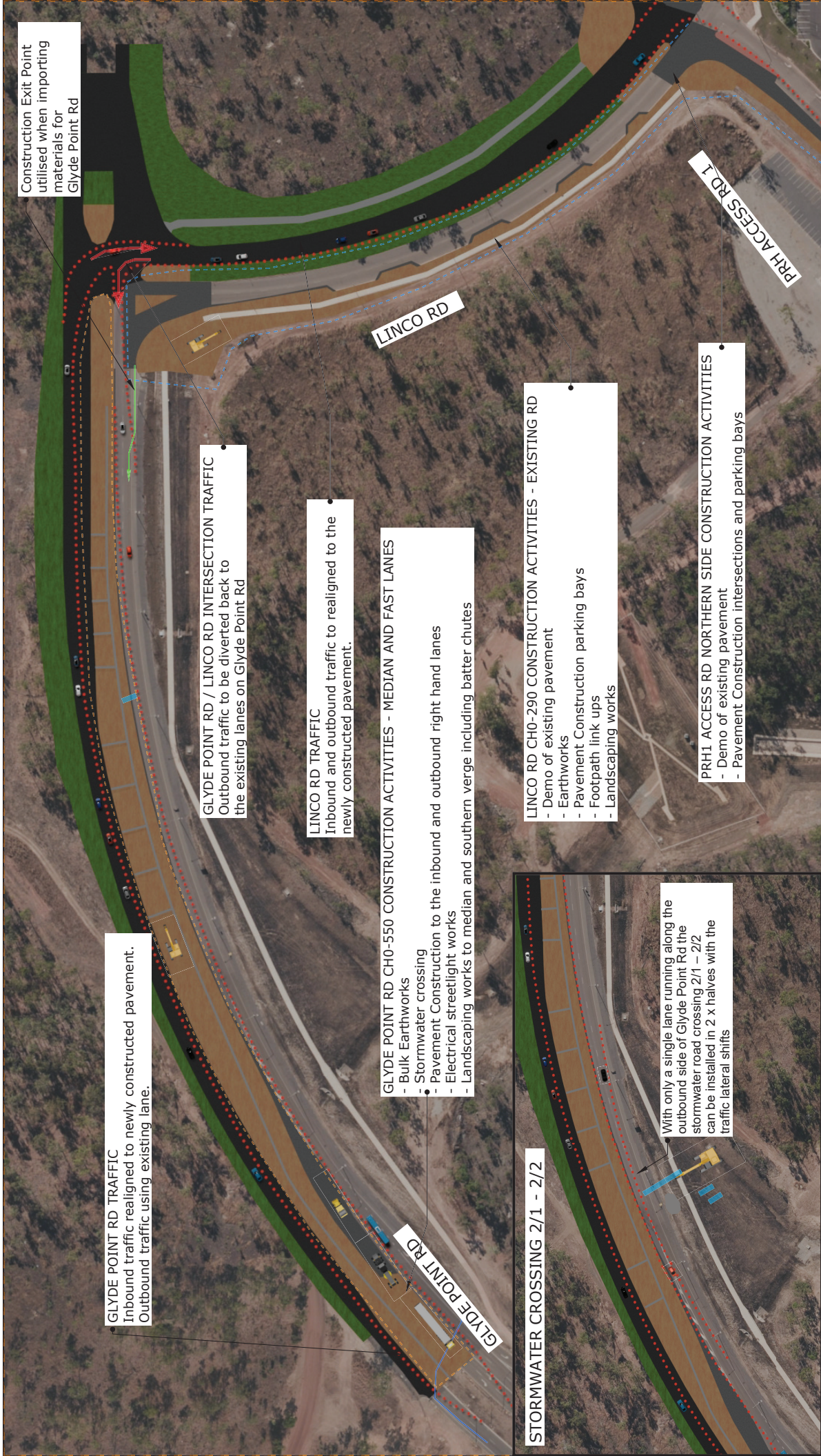
Staff Car Park 2 access via the Service Rd behind hospital

**PROJECT NAME**  
Holtze – Part A Land Release Infrastructure  
**LOCATION**  
Glyde Point Rd / Linco Rd, Greater Holtze, NT  
**CLIENT**  
Department of Infrastructure, Planning and Logistics

- GENERAL LEGEND**
- Bus Turnaround
  - Staff Car Park Access
  - Public Car Park Access / Emergency Vehicles
  - Maintenance Access
  - Pedestrians
  - Bollards
  - Proposed Entry Points
  - Proposed Exit Points

**DRAWING TITLE**  
Stage 4 - Completion of Sewer Installation  
**TENDER ISSUE**





Construction Exit Point  
utilised when importing  
materials for  
Glyde Point Rd

**GLYDE POINT RD TRAFFIC**  
Inbound traffic realigned to newly constructed pavement.  
Outbound traffic using existing lane.

**GLYDE POINT RD / LINCO RD INTERSECTION TRAFFIC**  
Outbound traffic to be diverted back to  
the existing lanes on Glyde Point Rd

**LINCO RD TRAFFIC**  
Inbound and outbound traffic to realigned to the  
newly constructed pavement.

**GLYDE POINT RD CH0-550 CONSTRUCTION ACTIVITIES - MEDIUM AND FAST LANES**  
- Bulk Earthworks  
- Stormwater crossing  
- Pavement Construction to the inbound and outbound right hand lanes  
- Electrical streetlight works  
- Landscaping works to median and southern verge including batter chutes

**STORMWATER CROSSING 2/1 - 2/2**

With only a single lane running along the  
outbound side of Glyde Point Rd the  
stormwater road crossing 2/1 - 2/2  
can be installed in 2 x halves with the  
traffic lateral shifts

**LINCO RD CH0-290 CONSTRUCTION ACTIVITIES - EXISTING RD**  
- Demo of existing pavement  
- Earthworks  
- Pavement Construction parking bays  
- Footpath link ups  
- Landscaping works

**PRH1 ACCESS RD NORTHERN SIDE CONSTRUCTION ACTIVITIES**  
- Demo of existing pavement  
- Pavement Construction intersections and parking bays

**PROJECT NAME**

Holtze - Part A Land Release Infrastructure

**LOCATION**

Glyde Point Rd / Linco Rd, Greater Holtze, NT

**CLIENT**

Department of Infrastructure, Planning and  
Logistics



**GENERAL LEGEND**

- Bus Turnaround
- Staff Car Park Access
- Public Car Park Access / Emergency Vehicles
- Maintenance Access
- Pedestrians
- Bollards
- Proposed Entry Points
- Proposed Exit Points

**DRAWING TITLE**  
Stage 5 - Online Works

**TENDER ISSUE**



**LINCO RD CONSTRUCTION ACTIVITIES - OFFLINE WORKS**

- Completion of services in road
- Pavement Construction
- Electrical / comms and watermain installation
- Asphalt
- Landscaping

Construction Exit Point utilised when importing materials for Linco Rd

**LINCO RD TRAFFIC**  
Linco Rd fully closed from PRH Access Rd1

**PRH1 ACCESS RD NORTHERN SIDE CONSTRUCTION ACTIVITIES - VERGE AND EXISTING RD**

- Demo of existing pavement
- Pavement construction intersection
- Linking up electrical, traffic signals and comms services

Bus stop relocated from Linco Rd to PRH Access Rd 1 bus turnaround at the end of the Rd

**PROJECT NAME**  
Holtze - Part A Land Release Infrastructure

**LOCATION**  
Glyde Point Rd / Linco Rd, Greater Holtze, NT

**CLIENT**  
Department of Infrastructure, Planning and Logistics

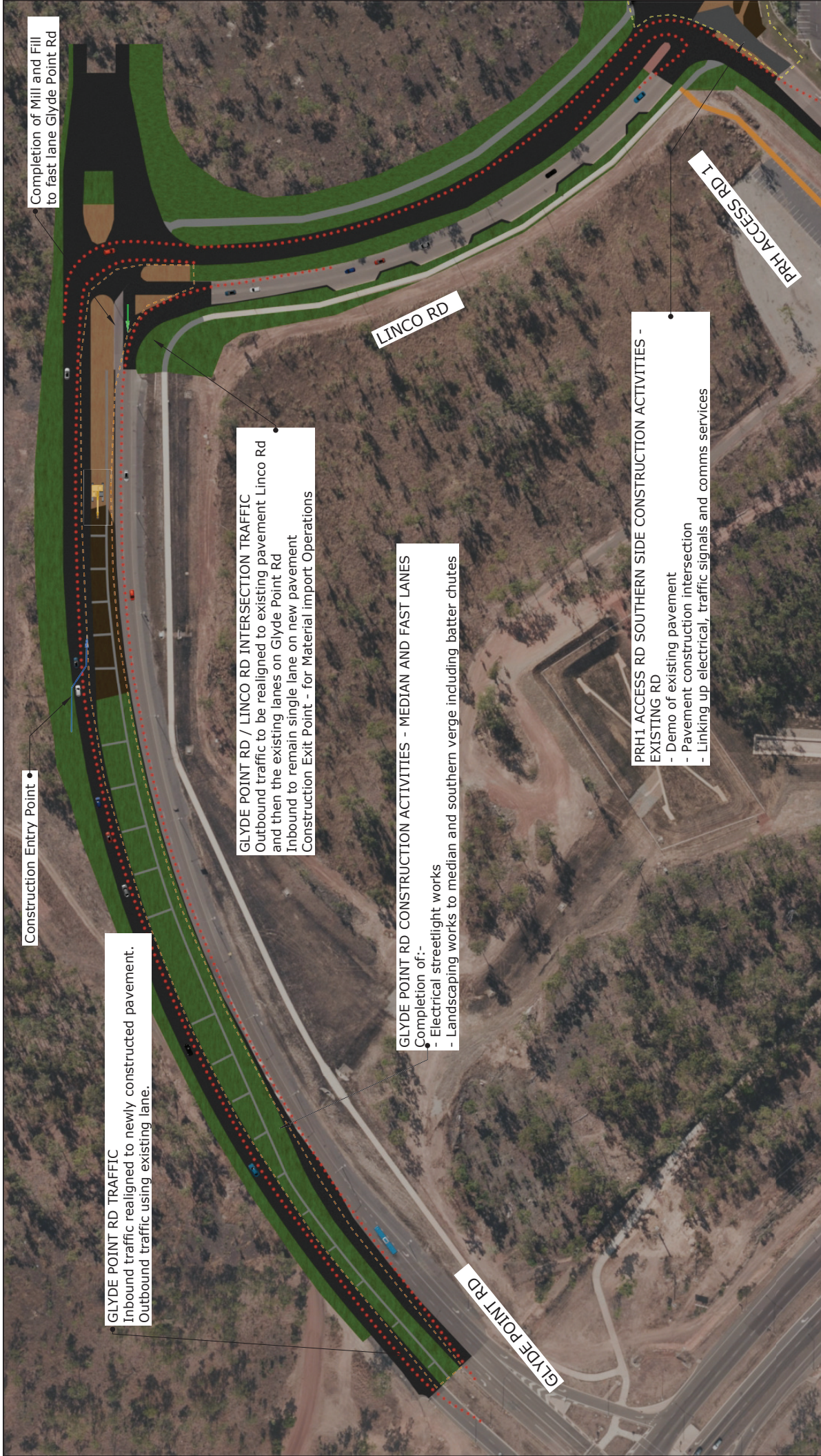


**GENERAL LEGEND**

- Bus Turnaround
- Staff Car Park Access
- Public Car Park Access / Emergency Vehicles
- Maintenance Access
- Pedestrians
- Bollards
- Proposed Entry Points
- Proposed Exit Points

**DRAWING TITLE**  
Stage 5 - Online Works

**TENDER ISSUE**



Construction Entry Point

**GLYDE POINT RD TRAFFIC**  
 Inbound traffic realigned to newly constructed pavement.  
 Outbound traffic using existing lane.

**GLYDE POINT RD / LINCO RD INTERSECTION TRAFFIC**  
 Outbound traffic to be realigned to existing pavement Linco Rd and then the existing lanes on Glyde Point Rd  
 Inbound to remain single lane on new pavement  
 Construction Exit Point - for Material Import Operations

**GLYDE POINT RD CONSTRUCTION ACTIVITIES - MEDIUM AND FAST LANES**  
 Completion of:-  
 - Electrical streetlight works  
 - Landscaping works to median and southern verge including batter chutes

**PRH1 ACCESS RD SOUTHERN SIDE CONSTRUCTION ACTIVITIES - EXISTING RD**  
 - Demo of existing pavement  
 - Pavement construction intersection  
 - Linking up electrical, traffic signals and comms services

Completion of Mill and Fill to fast lane Glyde Point Rd

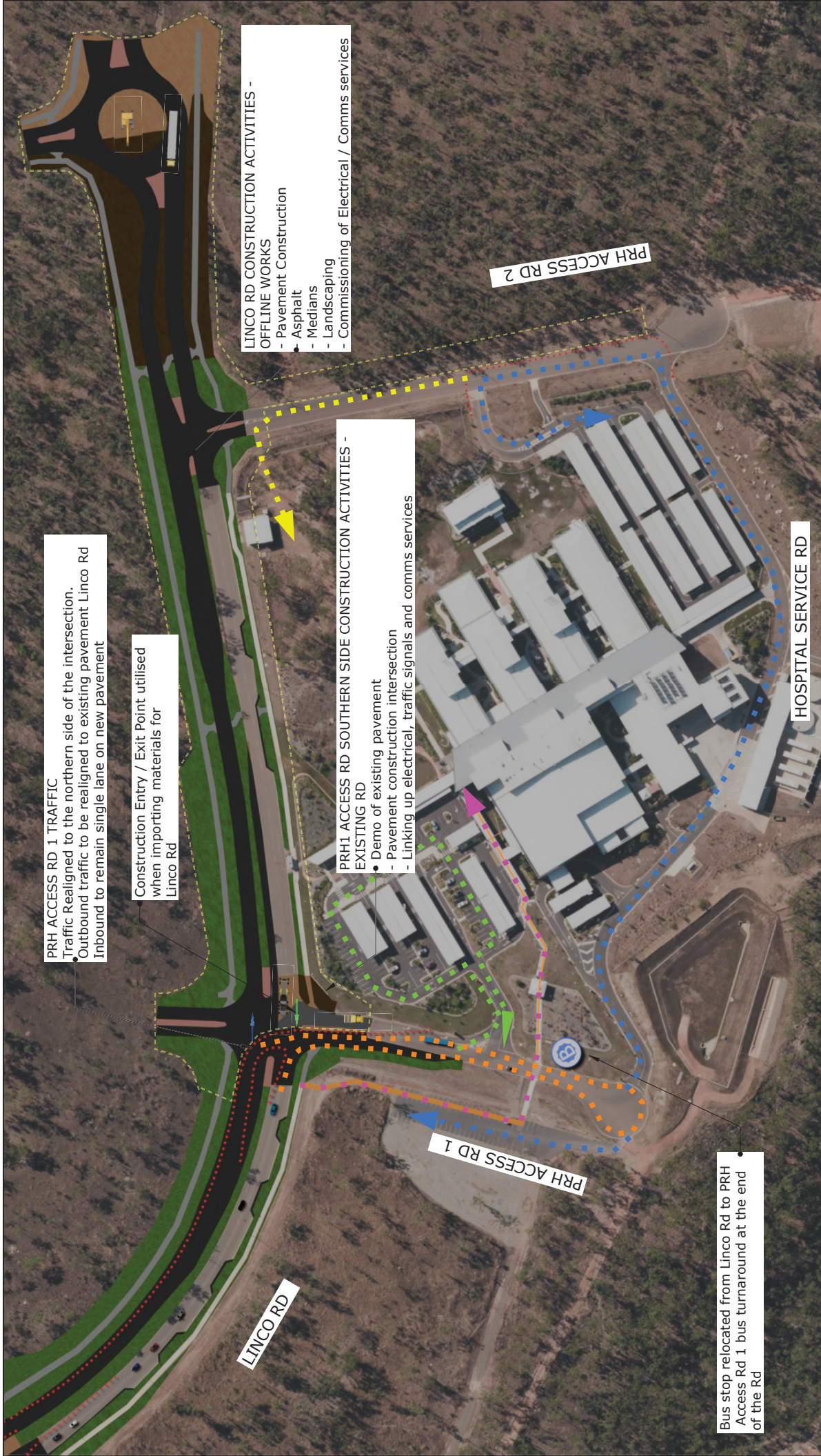


**PROJECT NAME**  
 Holtze - Part A Land Release Infrastructure  
**LOCATION**  
 Glyde Point Rd / Linco Rd, Greater Holtze, NT  
**CLIENT**  
 Department of Infrastructure, Planning and Logistics

- GENERAL LEGEND**
- Bus Turnaround
  - Staff Car Park Access
  - Public Car Park Access / Emergency Vehicles
  - Maintenance Access
  - Pedestrians
  - Bollards
  - Proposed Entry Points
  - Proposed Exit Points

**DRAWING TITLE**  
 Stage 6 - Intersection Works

**TENDER ISSUE**



**PRH ACCESS RD 1 TRAFFIC**  
 • Traffic Realigned to the northern side of the intersection.  
 • Outbound traffic to be realigned to existing pavement Linco Rd  
 • Inbound to remain single lane on new pavement

Construction Entry / Exit Point utilised when importing materials for Linco Rd

LINCO RD

PRH ACCESS RD 1

PRH ACCESS RD 2

HOSPITAL SERVICE RD

**LINCO RD CONSTRUCTION ACTIVITIES - OFFLINE WORKS**  
 - Pavement Construction  
 - Asphalt  
 - Medians  
 - Landscaping  
 - Commissioning of Electrical / Comms services

**PRH1 ACCESS RD SOUTHERN SIDE CONSTRUCTION ACTIVITIES - EXISTING RD**  
 • Demo of existing pavement  
 - Pavement construction intersection  
 - Linking up electrical, traffic signals and comms services

Bus stop relocated from Linco Rd to PRH Access Rd 1 bus turnaround at the end of the Rd

**PROJECT NAME**  
Holtze - Part A Land Release Infrastructure  
**LOCATION**  
Glyde Point Rd / Linco Rd, Greater Holtze, NT  
**CLIENT**  
Department of Infrastructure, Planning and Logistics



- GENERAL LEGEND**
- Bus Turnaround
  - Staff Car Park Access
  - Public Car Park Access / Emergency Vehicles
  - Maintenance Access
  - Pedestrians
  - Bollards
  - Proposed Entry Points
  - Proposed Exit Points

**DRAWING TITLE**  
Stage 6 - Intersection Works

**TENDER ISSUE**